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Performance Tuning Oracle E-Business Suite - Part 2 Client and Network Tuning

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Oracle Development

Agenda

- Client Tuning
- Network Tuning



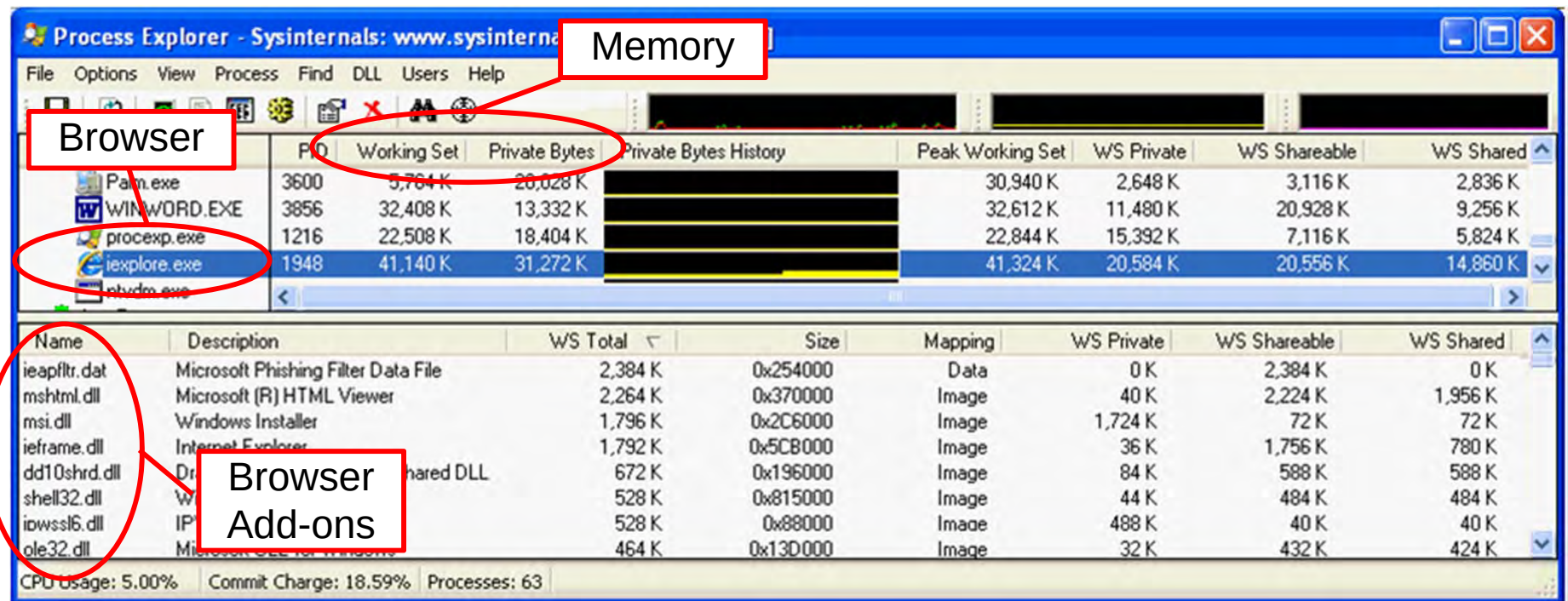
Client Tuning

A Very In-Depth Paper

- Oracle E-Business Suite 11i and R12 PC Client Performance whitepaper Doc ID 557259.1
 - Do I need CPU, memory, or both?
 - Is a low specification client usable?
 - Is there a difference in client requirements between 11i and R12?
 - Plots Self Service screen and Oracle Form opening times
 - Provides network traffic analysis

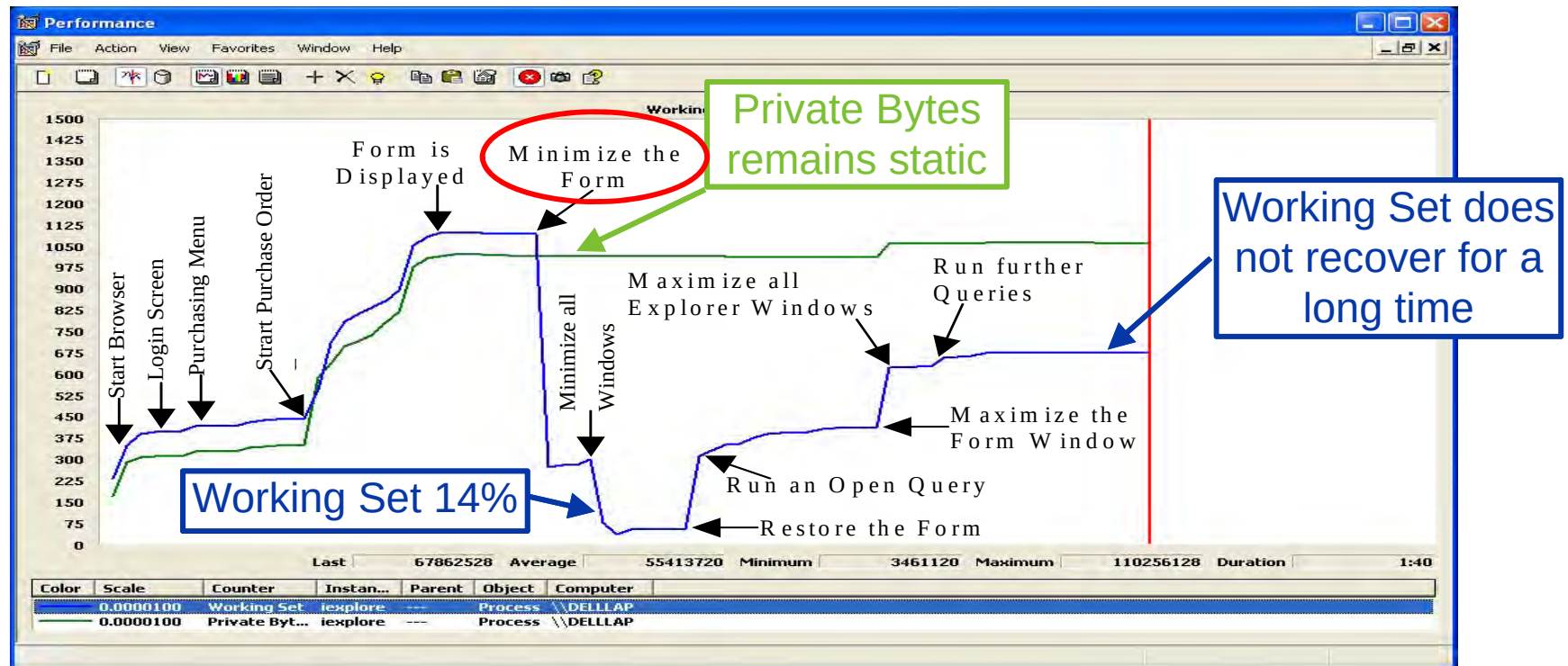
Client Tuning

Measuring Memory: Process Explorer



Client Tuning

Avoid Minimizing Applications on Low Memory Clients

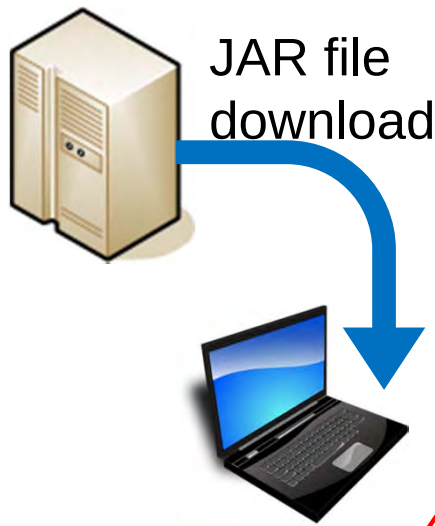


- Memory optimizers

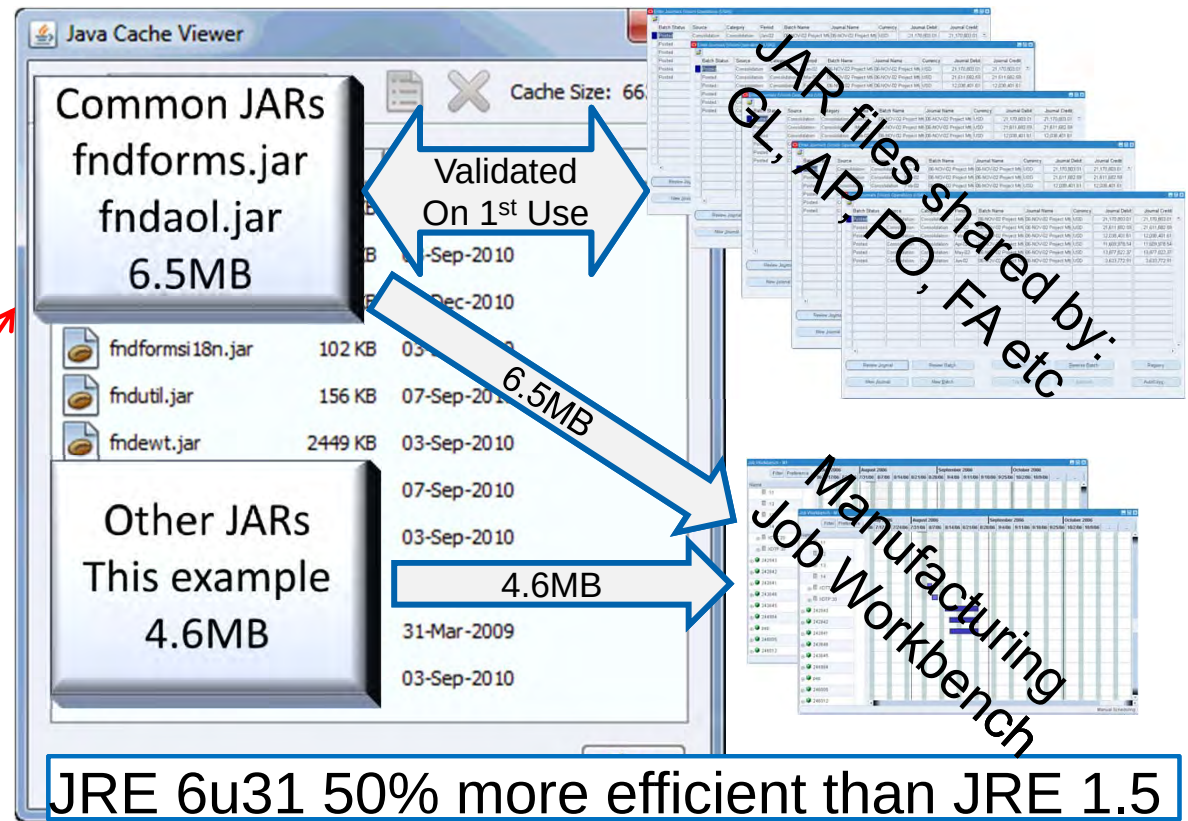
Client Tuning

Jar File Validation vs Revalidation

First time use or on upgrade



Common Jar Files
JRE 1.5 11i: 10.6 MB
JRE 6u31 11i: 5.1 MB **12.1.3: 6.5 MB**



Normal Usage
(Already on PC)

Client Tuning

Minimum Specification 798258.1

- CPU speed

- Oracle recommends at least 350 MHz processors
You will experience significant performance in
Note that the minimum requirements will provide
Your requirements may be higher!

Win XP 233MHz
64MB min 128MB recommended
Win 7 1GHz 1GB(32 bit) or 2GB(64 bit)

- Memory

- Consider the minimum requirements for the operating system
Oracle recommends at least 256 MB of RAM for Microsoft Windows/Apple MAC clients
If running with other apps, you will experience better performance with additional memory

MS Word 2003: 67s to open a doc
Office 2007: 500MHz 512MB min
Many features (grammar and spelling)
won't work with < 1GB

*When considering CPU and memory, consider the minimum requirements for the OS, other software that runs concurrently, and external factors such as the network characteristics
Check that the configuration is sufficient to achieve the throughput necessary to sustain your business model. Your requirements may be higher than the minimum specification*

Client Tuning

Clients Used in this Test Scenario

366MHz Pentium II	128MB
700MHz Pentium III	256MB
1.6GHz Pentium	1GB
1.8GHz T2400 Mobile Core Duo	2GB

Below the
minimum

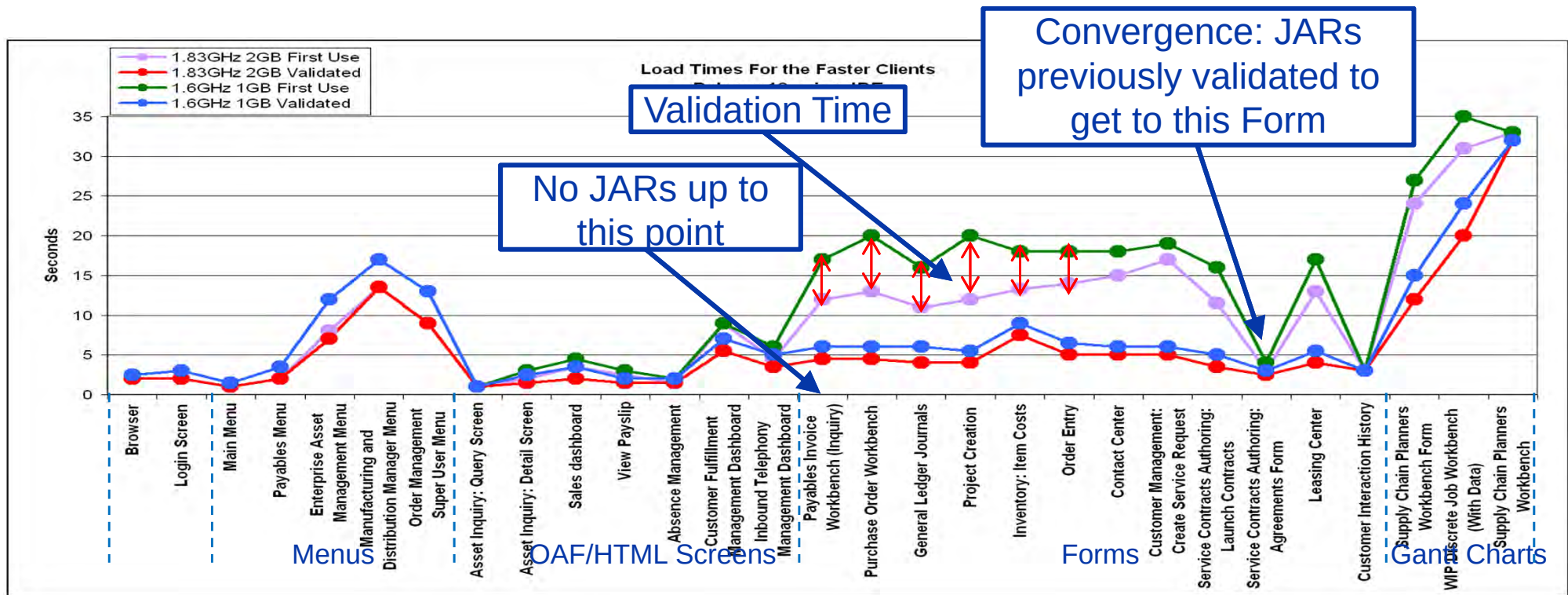
Equal to the
Oracle minimum

Nearest to
Recommended

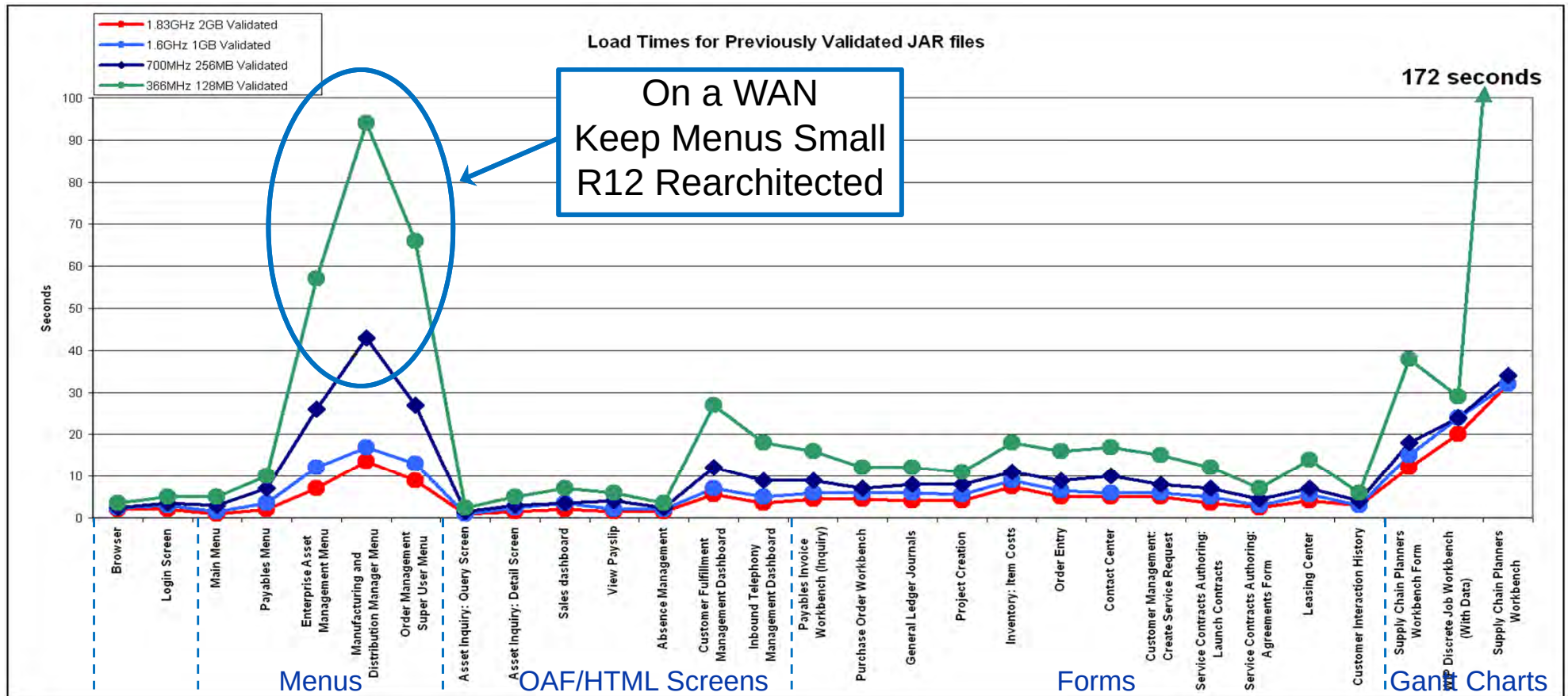
Most have at
least this spec

Load Times: Fastest Clients Only

First Use (Green & Purple) Validated (Red & Blue)

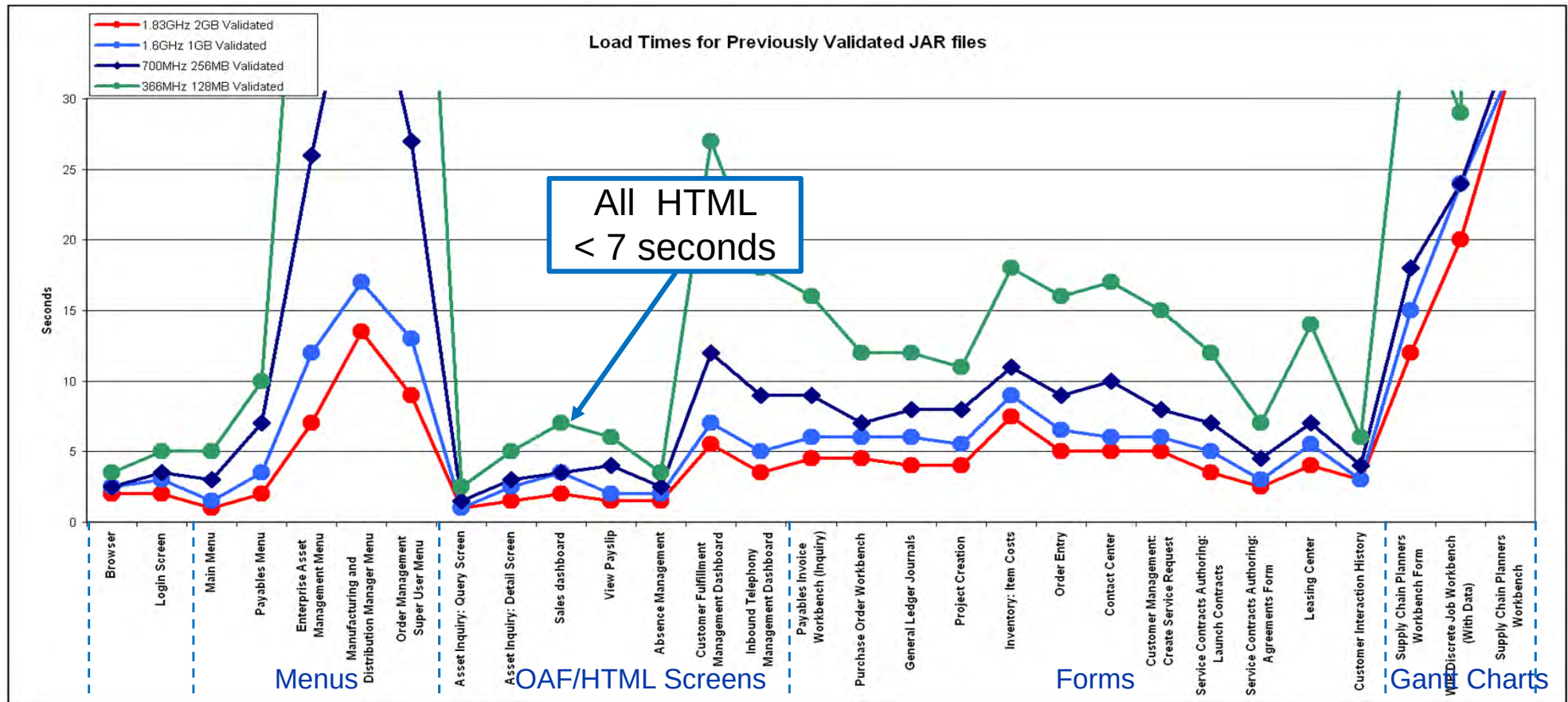


Validated JARs(already used) - All Clients



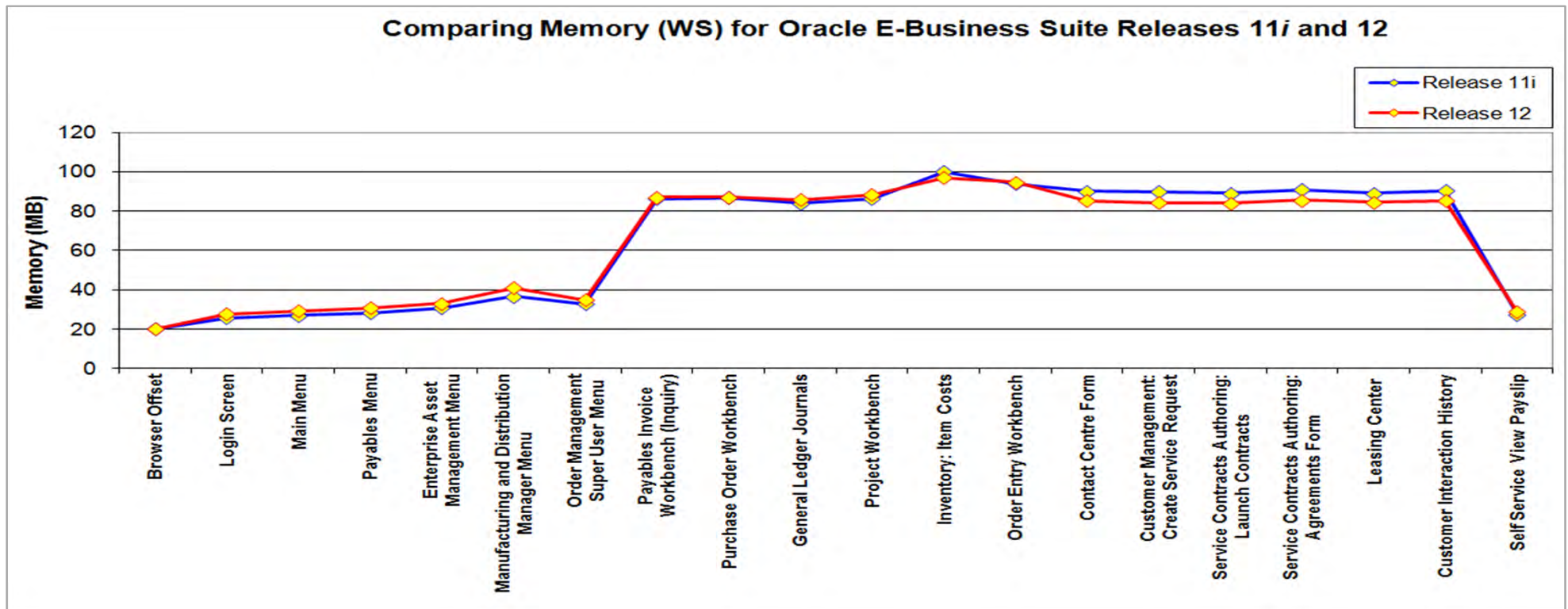
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Validated Jars ... Expanded



Client Tuning

Memory Utilization: 11i and R12



Windows 7 vs Windows XP

		Windows 7			Windows XP		
		Working Set			Working Set		
Employee Self Service View Payslip	IE	44,620			52,310		
	FF	47,829			50,264		
		Packets	Time	Bytes	Packets	Time	Bytes
	IE	82	0.77	93,282	94	0.90	93,991
	FF	84	0.86	98,380	97	0.93	96,960

		Windows 7			Windows XP		
		Working Set			Working Set		
Order Management Sales Orders	IE	156,845			149,782		
	FF	153,766			142,136		
		Packets	Time	Bytes	Packets	Time	Bytes
	IE	352	11.0	236,900	369	9.2	237,395
	FF	357	9.4	238,900	367	7.5	238,786

Client Tuning

Multiple Java Issue

- “The application requires an earlier version of Java. Do you want to continue?”
 - Occurs when you have the version called by the EBS Web Server
 - And a later JRE
 - Huge number of number of “applications turns” - “chatty”
- Refer to Deploying Sun JRE (Native Plug-in)
 - R12 Doc ID 393931.1
 - 11i: Doc ID 290807.1

Client Tuning

Browsers

- Have as many HTML based screens open as you like
- Only IE allows multiple Forms sessions
 - e.g. PO and GL open at the same time (or even 11i and R12)
 - IE 1 cookie per browser session, FF 1 cookie per desktop
 - Important for productivity and saves mixing menus
- Multiple sessions don't work in IE8
 - Used to be able to use new browser sessions
 - C:\Program Files\Internet Explorer\iexplore.exe" –noframemerging
- Mozilla offers an Extended Support Release (ESR)
 - <https://wiki.mozilla.org/Enterprise/Firefox/ExtendedSupport:Proposal>

Client Tuning

Low Specification PC Clients – Lots of Small Steps

- Benchmark clients with the applications that you use
- Memory is much more important than CPU
- Don't have lots of other applications running
- Minimize the browser memory footprint
 - Toolbars, themes, extensions, plug-ins, helper applications, and phishing controls
- Use low-spec clients for Self Service and some Oracle Forms
- Old memory is cheap, but might not be cost effective

R12 Client Performance Tips

Major Gains

- JRE6 uses less cache & therefore network than JRE5
 - Avoid 6u10 – 6u13
- Use OAF/HTML where possible - smaller memory profile
- Do not minimize E-Business Suite forms
 - Keep Forms open
- Keep menus small (more later)
 - A few combine menus, but profile options can be problematic
 - Move odd fields to prevent opening multiple screens
- Fast clients can help compensate for poor networks
 - But only up to a point

Agenda

- Client Tuning
- Network Tuning
 - Tools
 - Tuning for High Latency/Low Bandwidth
 - Satellite



Network Tuning

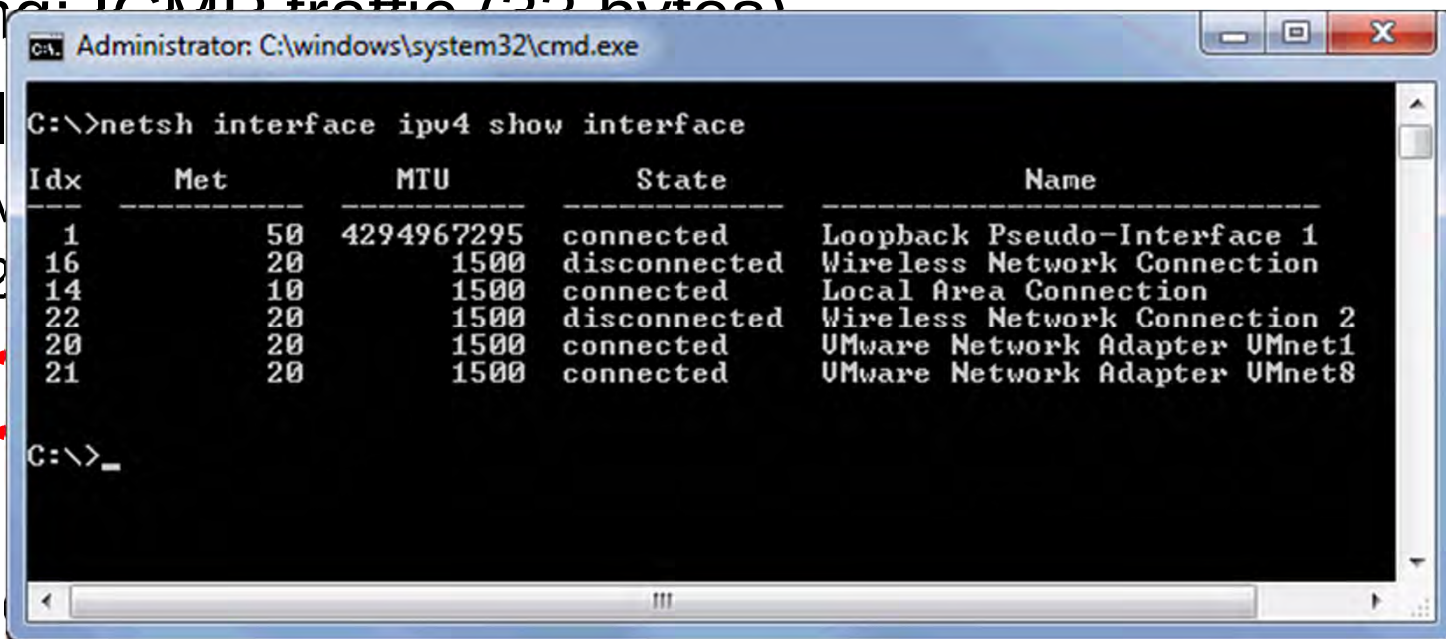
That Old Ping – Again!

- Ping: ICMP traffic (22 bytes)

- Full

– M

– 2



```
Administrator: C:\windows\system32\cmd.exe
C:\>netsh interface ipv4 show interface

Idx      Met      MTU      State      Name
-----
1        50      4294967295 connected Loopback Pseudo-Interface 1
16       20      1500     disconnected Wireless Network Connection
14       10      1500     connected  Local Area Connection
22       20      1500     disconnected Wireless Network Connection 2
20       20      1500     connected  VMware Network Adapter VMnet1
21       20      1500     connected  VMware Network Adapter VMnet8

C:\>_
```

F set.

- Un

– Ping with small and large packets 35ms vs 75ms

Network

How much traffic?

- Network metrics

- Different modules: forms/screens
- Different connection modes: socket/servlet/HTML/SSL
- Amount of data: Result sets/LOVs
- User adeptness and Application tuning
- Application and work load mix
- Concurrency



Keep forms open
Avoid blind queries
Don't use leading %
Keep LOVs small
Use defaults (later in this session)
Make report parameters mandatory
Type of report: XML/PDF

- Install Vision and test

- Ask for a network capture next time you have a product demo

Network

How much traffic

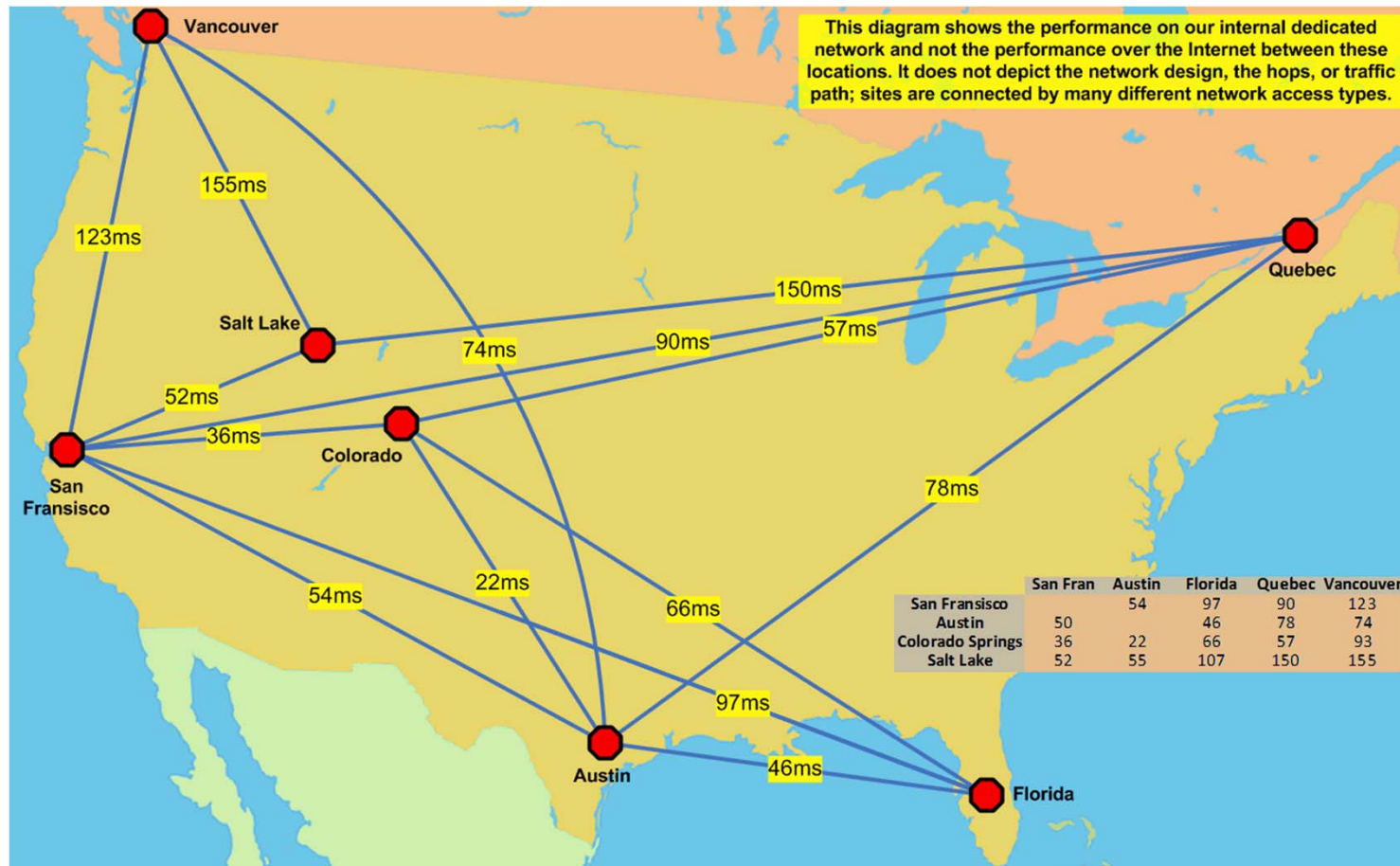
- On-Demand
 - Technical and Operational standards [Doc ID 784666.1]
 - Provides a starting point (if you don't have one)
 - Oracle E-Business Suite self-service applications: 4-6 kbps
 - Oracle E-Business Suite forms applications: 10-12 kbps
 - Oracle Business Intelligence & Applications On Demand: 12 kbps
 - Oracle recommends minimum link bandwidth is 128 kbps
- *These vary depending on business and workflow*
 - Customer must determine peak usage
 - Recommend upgrade if network link > 80% during peak usage

Network

Concepts Manual

- *Oracle E-Business Suite works very well with average latencies up to 300ms, and is usually found to give acceptable performance with latencies up to 500ms. Note that periods when forms are being loaded (for example, on startup) may be an issue in cases where latency is marginal. A consequence of this is that the newer HTML-based Applications (which do not use Forms) may give better performance than the traditional Forms-based Applications.*

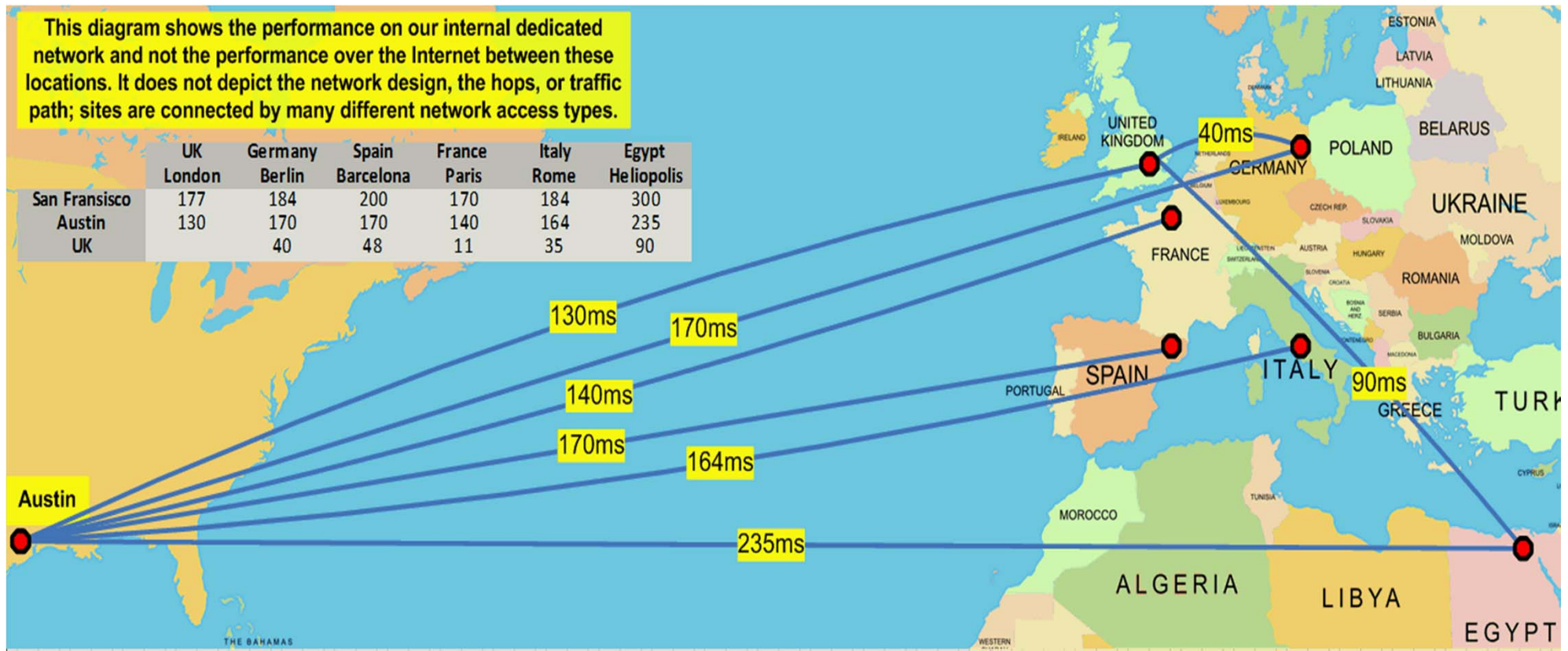
Network: USA



Network: Europe

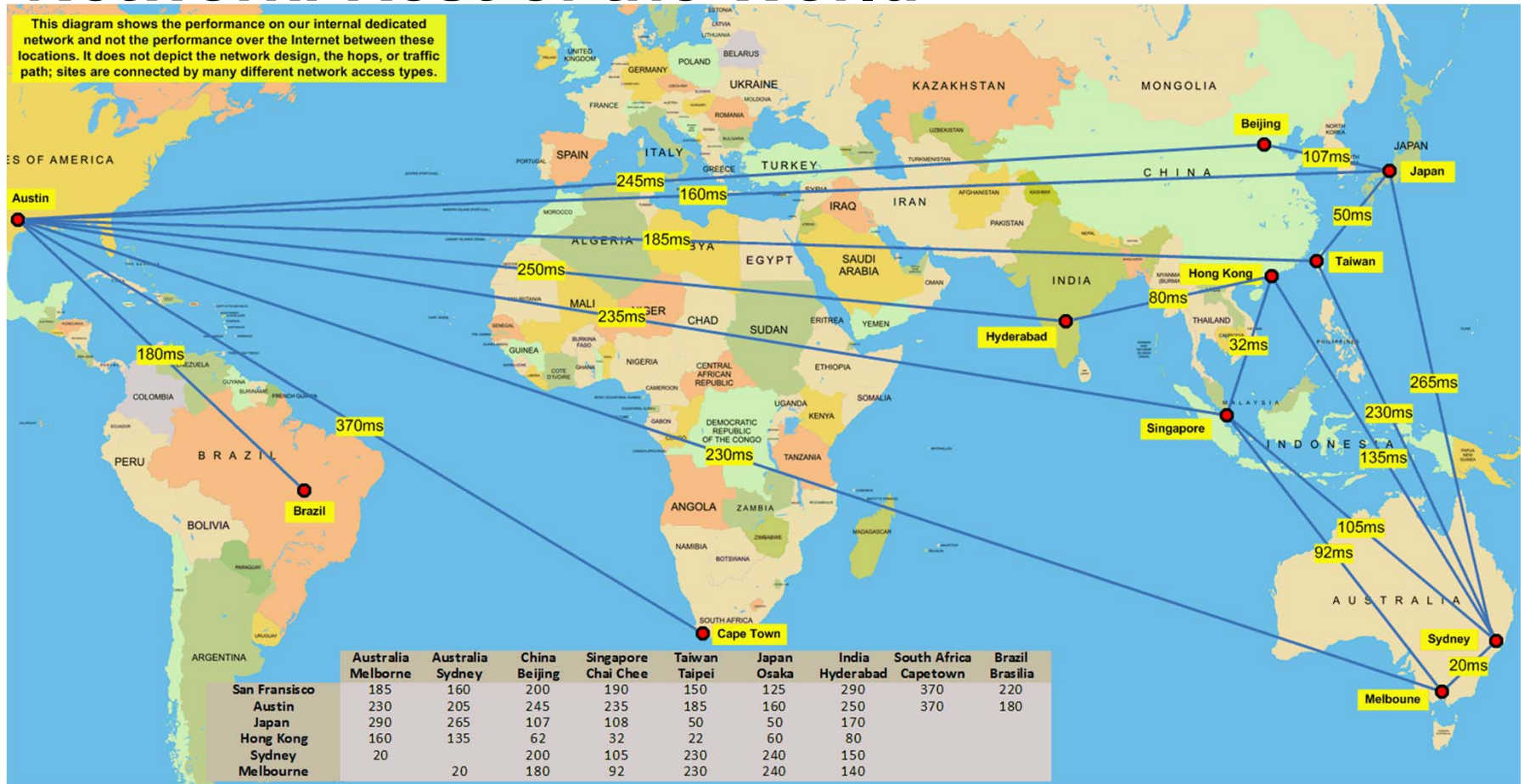
This diagram shows the performance on our internal dedicated network and not the performance over the Internet between these locations. It does not depict the network design, the hops, or traffic path; sites are connected by many different network access types.

	UK London	Germany Berlin	Spain Barcelona	France Paris	Italy Rome	Egypt Heliopolis
San Francisco	177	184	200	170	184	300
Austin	130	170	170	140	164	235
UK		40	48	11	35	90



Network: Rest of the World

This diagram shows the performance on our internal dedicated network and not the performance over the Internet between these locations. It does not depict the network design, the hops, or traffic path; sites are connected by many different network access types.



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Network: Customer Averages



Agenda

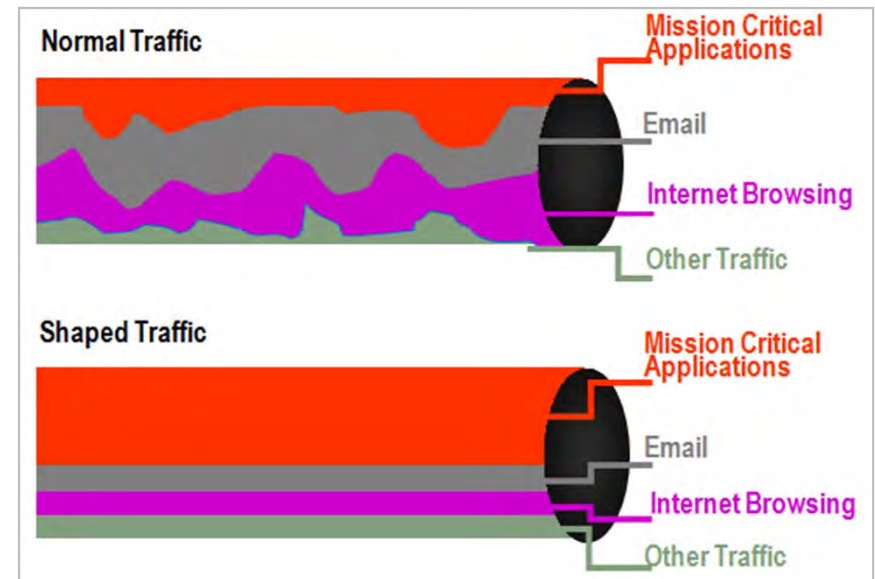
- Client Tuning
- Network Tuning
 - Tools
 - Tuning for High Latency/Low Bandwidth
 - Satellite



Network Tools

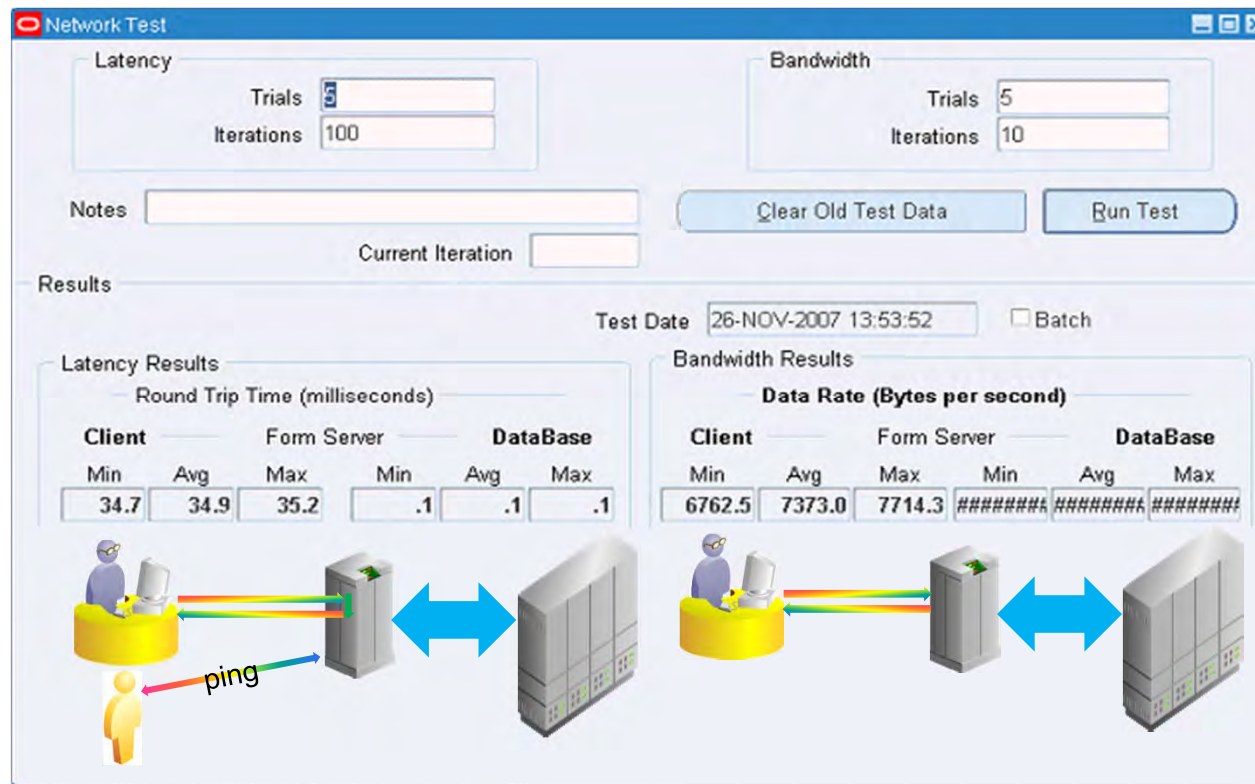
Quality Of Service (QoS)

- A set of features (and tools) – aims to prioritize mission critical traffic
 - Classifies traffic enabling differentiated service levels
 - Usually implemented in routers
- Congestion management
 - Packet Classification
 - Packet Shaping
 - Rate Limiting
 - Priority Queuing
- Administration overhead



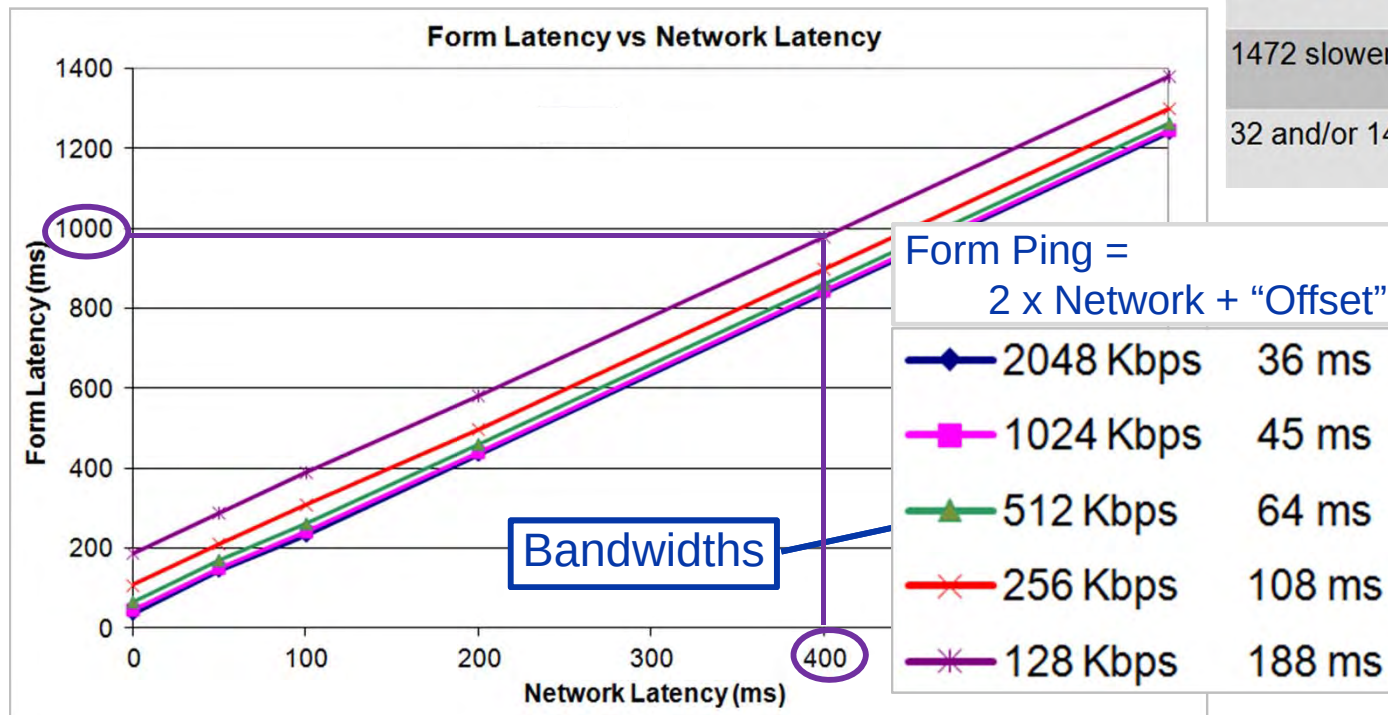
Network Tools

Network Test



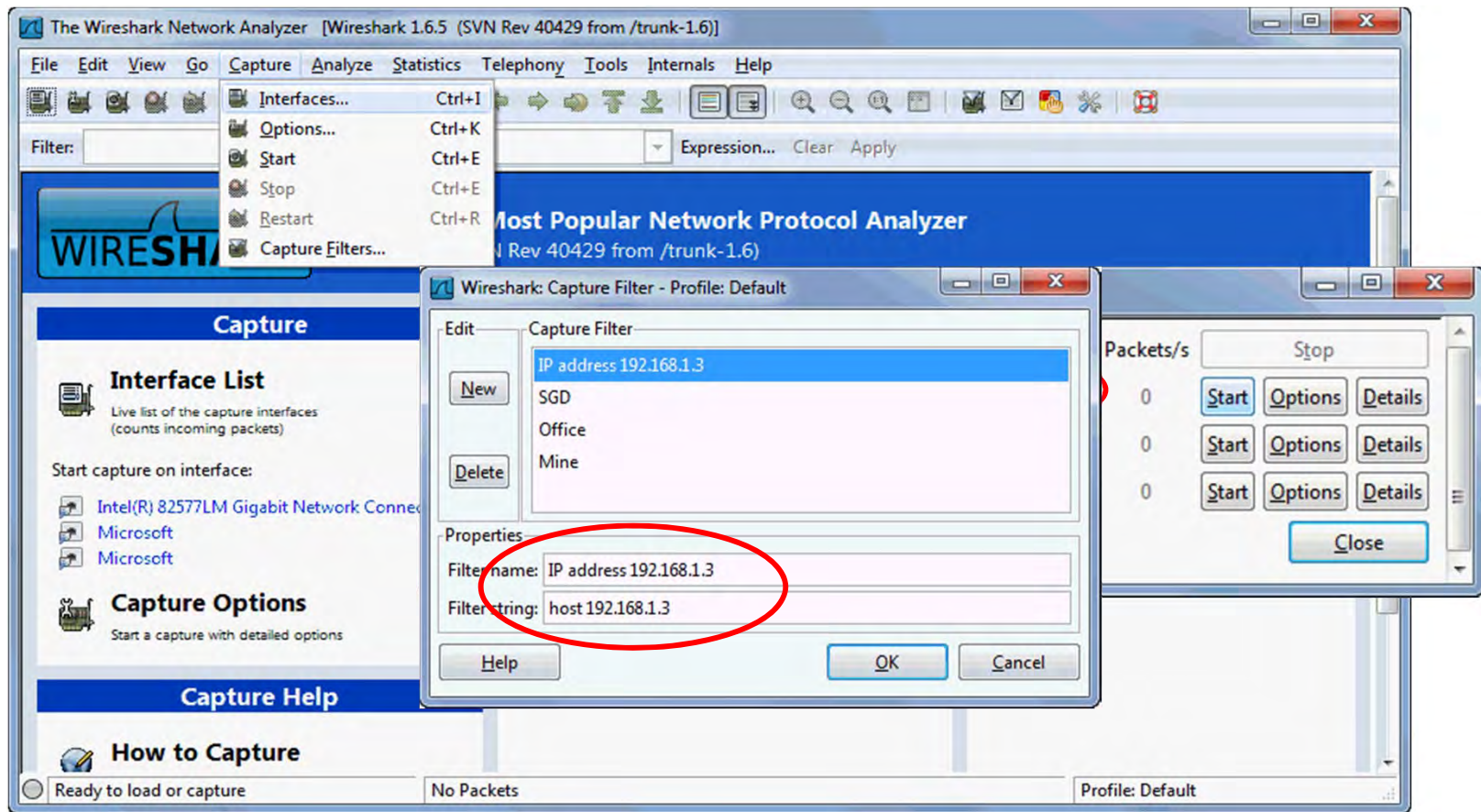
Network Test Utilities Best Practices (556738.1)

Network Test

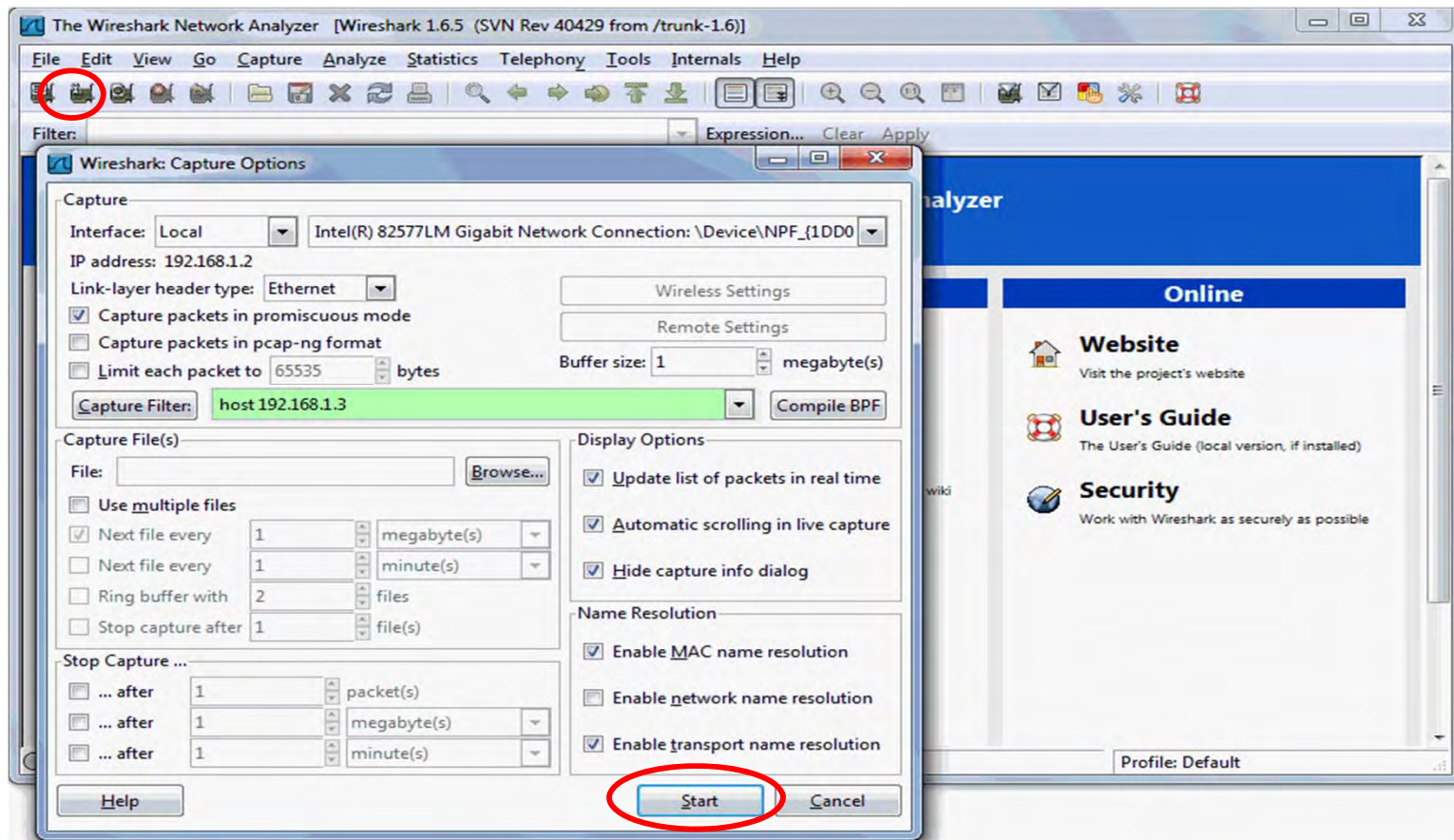


Network (Ping times)	Network Test Form	Network	Apps Tier
32 and 1472 normal	No change	✓	✓
	Slower	✓	⊗
1472 slower than 32	No change	⊗	✓
	Slower	⊗	OR ⊗
32 and/or 1472 slower	No change	⊗	✓
	Slower	⊗	OR ⊗

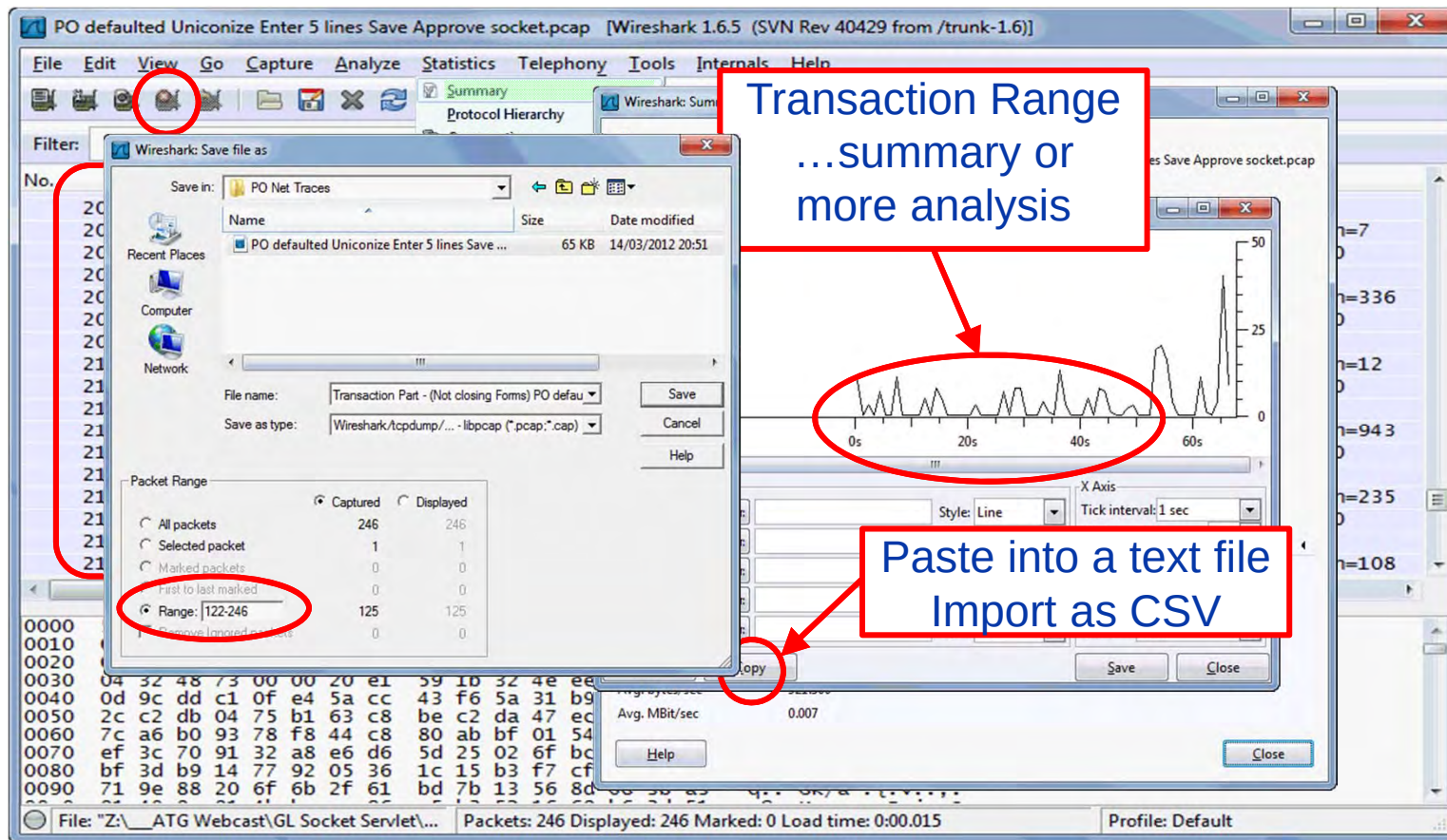
Wireshark



Wireshark



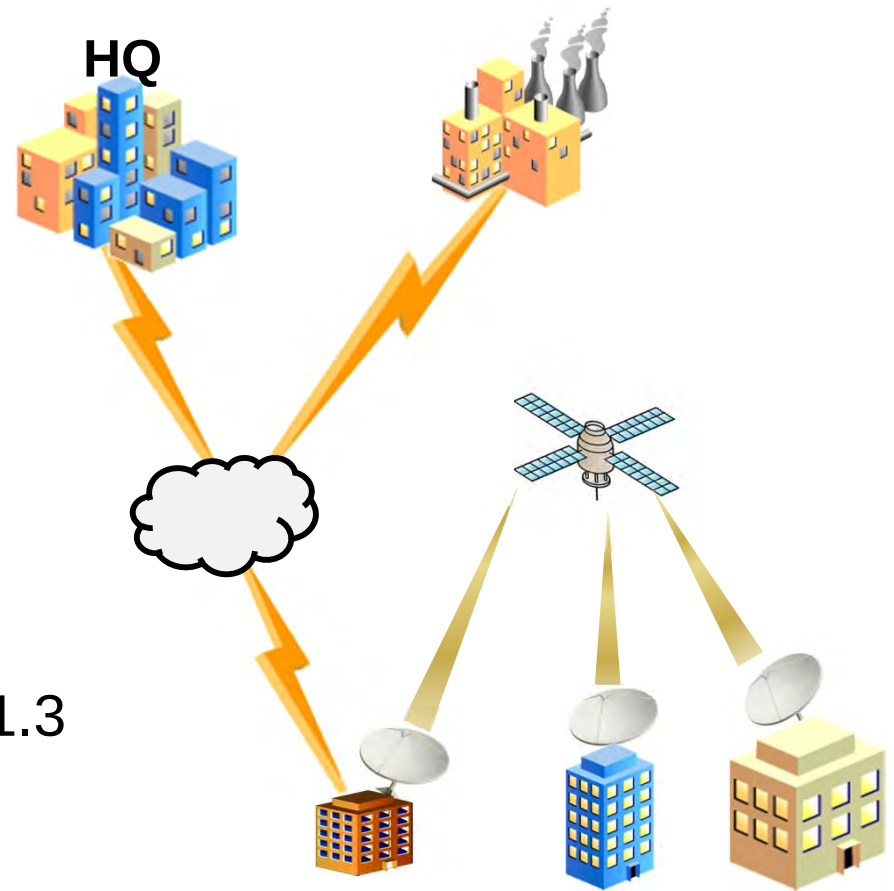
Wireshark



Network Tools

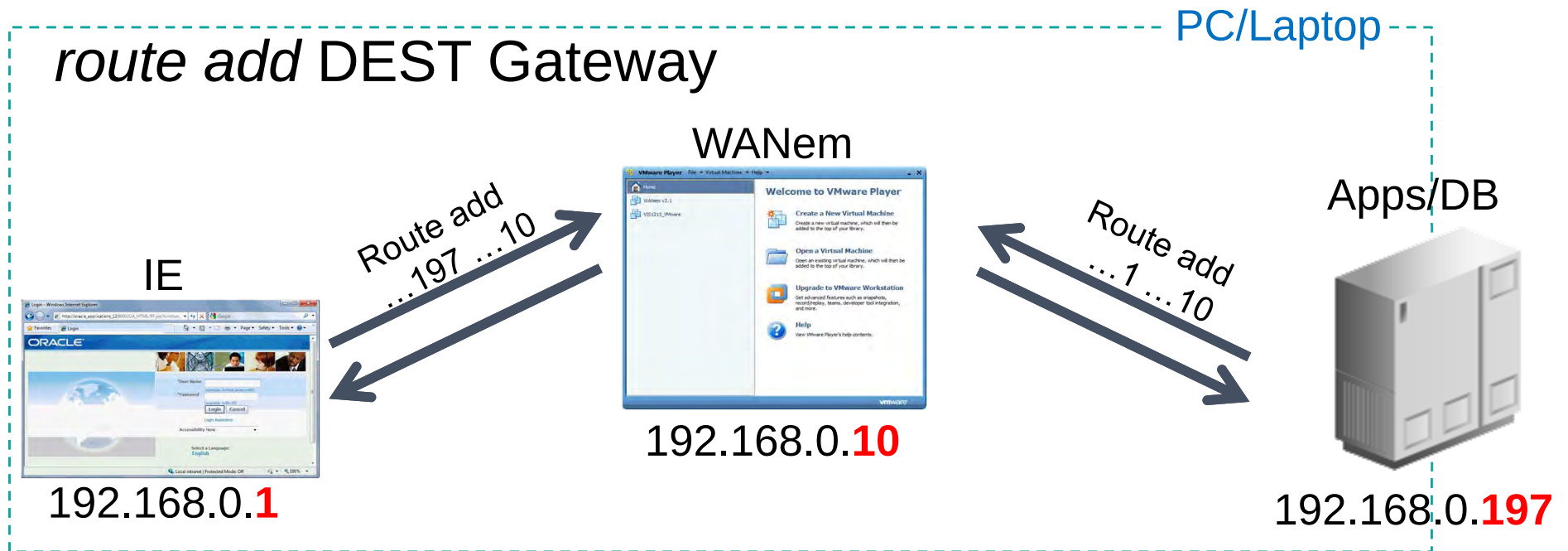
Simulating WAN Latency

- WANem - native or VM
 - <http://wanem.sourceforge.net/>
 - Open Source
 - GNU General Public License
- Compatibility issues
 - Works on XP/VMWare 3.0
 - Problematic on Win7/VMWare 3.1.3
- Good user manual



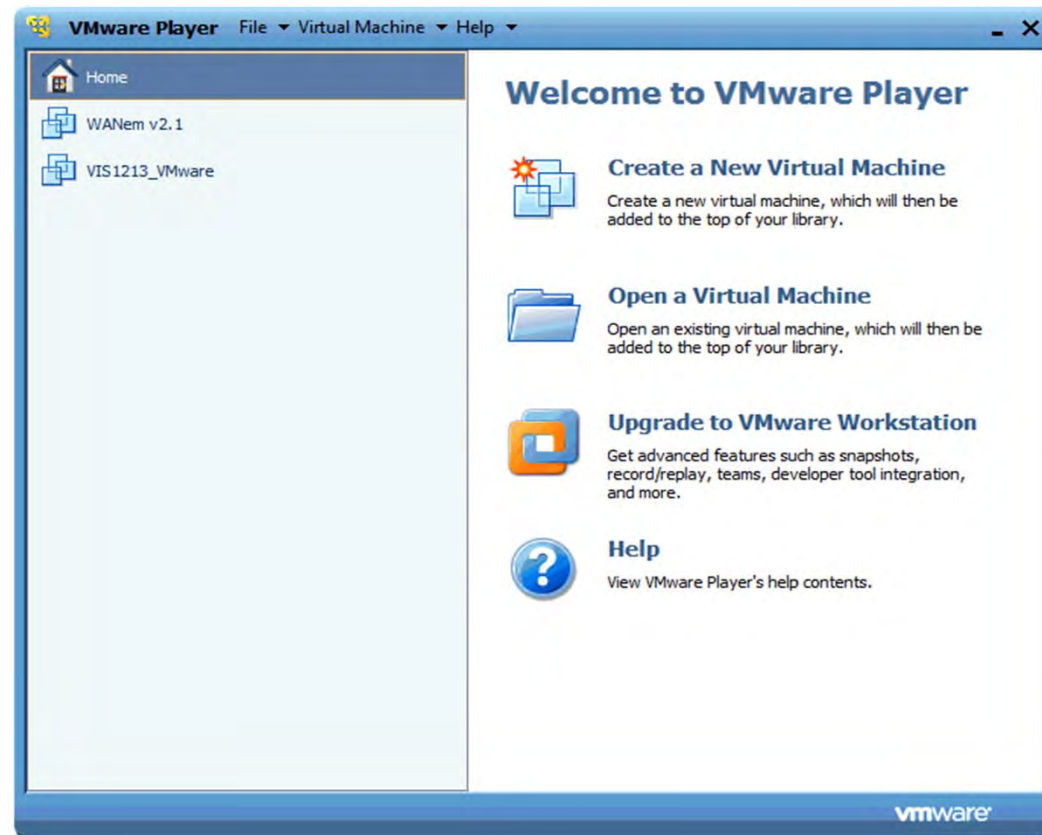
Network

WANem



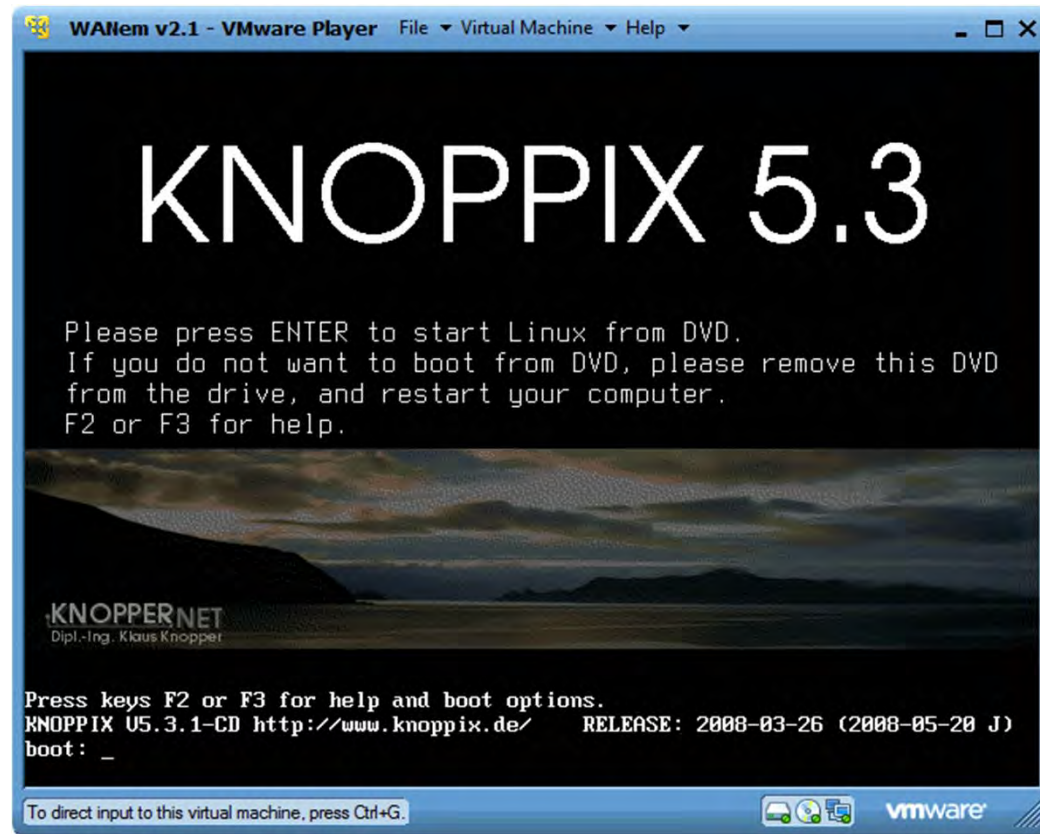
Client Tuning

WANem



Network

WANem Boot Screen



Network

Boot Procedure

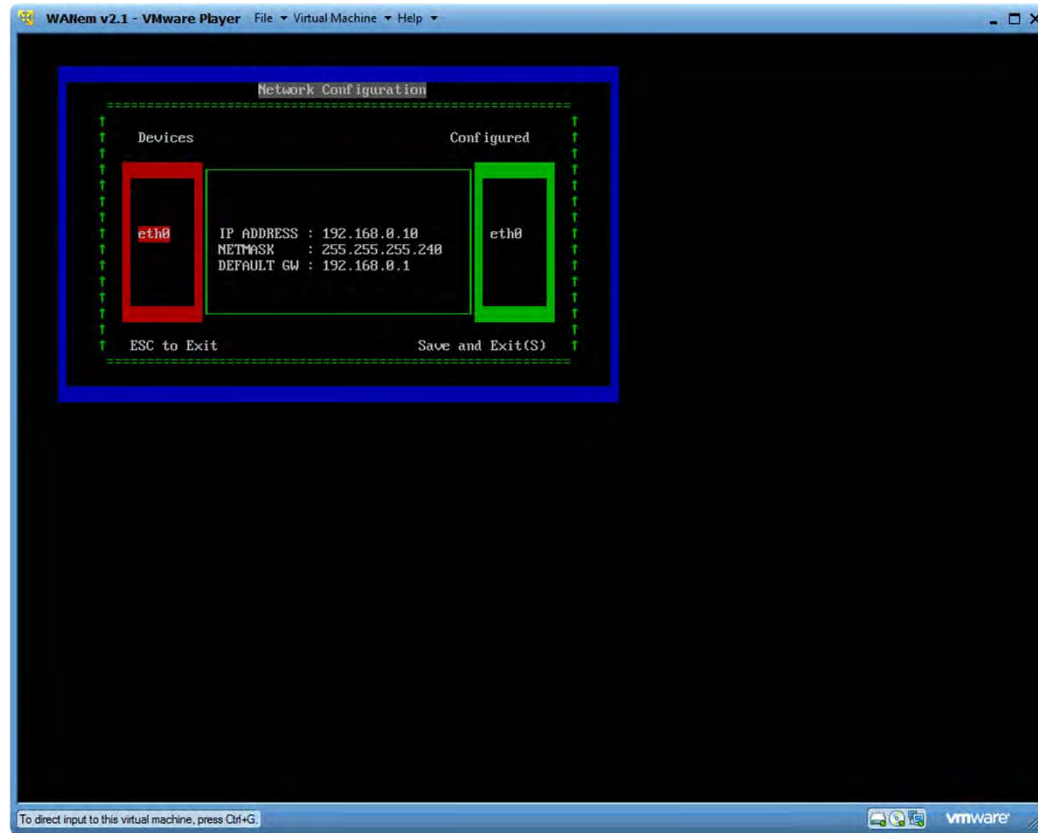
```
WALtem v2.1 - VMware Player  File Virtual Machine Help
Welcome to the KNOPPIX live GNU/Linux on CD!

Running Linux Kernel 2.6.24.4.
Total Memory available: 513972kB, Memory free: 584768kB.
Scanning for USB/Firewire devices... Done.
Enabling DMA acceleration for: hdc [VMware Virtual IDE CDROM Drive]
Accessing KNOPPIX CD at /dev/hdc...
Reading cloop blocks...(Backgrounding)
cloop: Initializing cloop v2.624-opt
cloop: total_offsets 16958
cloop: normal format
noncomp: 0
cloop: tblunit size OK.
cloop: Direct read:1...2...OK.
cloop: largest block size : 65562
cloop: chunk check OK.
cloop: kthread setting OK.

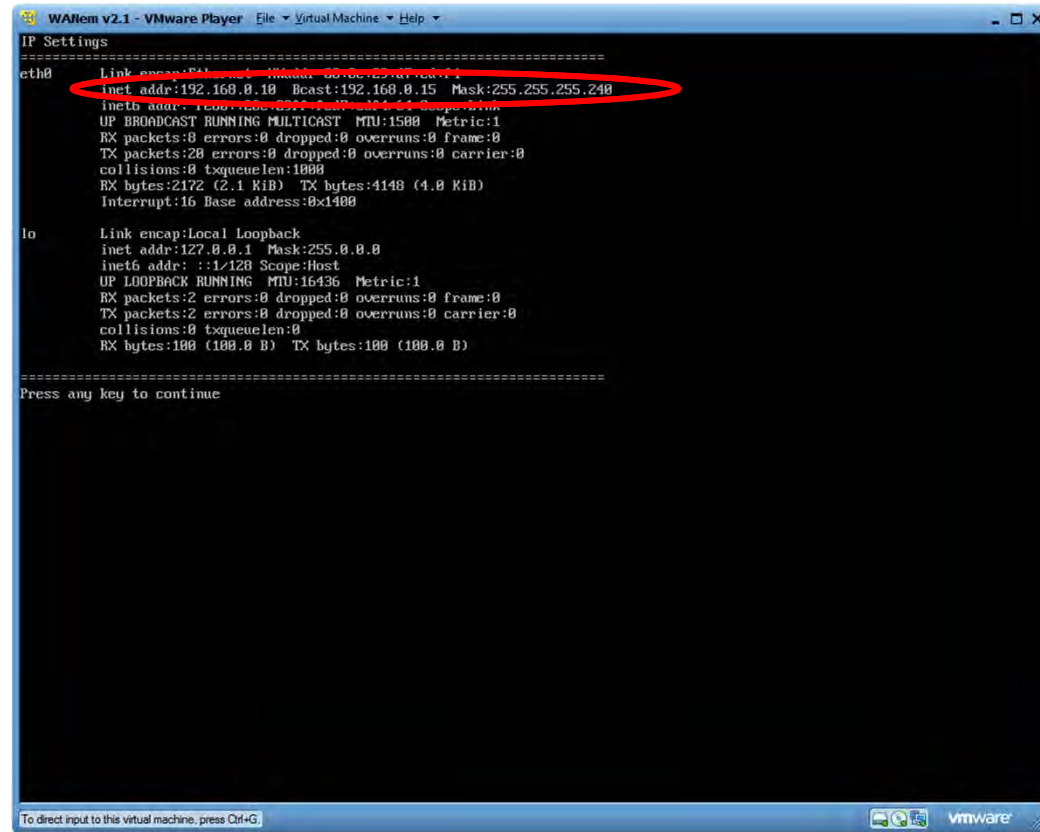
Found primary KNOPPIX compressed image at /cdrom/KNOPPIX/KNOPPIX.
Creating /ramdisk (dynamic size=411176k) on shared memory...Done.
Creating unified filesystem and symlinks on ramdisk...
>> Read-only CD system successfully merged with read-write /ramdisk.
Done.
Accelerated AUTOCONFIG INSTALL... Done.
Accelerated XSESSION INSTALL... Done.
Starting INIT (process 1).
INIT: version 2.86 booting
Configuring for Linux Kernel 2.6.24.4.
Processor 0 is Intel(R) Core(TM) i5 CPU M 520 @ 2.40GHz 2393MHz, 3872 KB Cache
ACPI Bios found, activating modules: ac battery button container dock fan processor sbs sbshc thermal video
ACPI daemon enabled.
USB found, managed by udev
Firewire found, managed by udev
Starting udev hot-plug hardware detection... Started.

Autoconfiguring devices... Done.
Mouse is ImPS/2 Generic Wheel Mouse at /dev/input/mice
Accelerated MCOXRGCONFIG . (Backgrounding)
Video is VMware Inc Abstract SUGA II Adapter, using Xorg(VMware) Server
Monitor is Generic Monitor, H:28.0-96.0kHz, U:58.0-76.0Hz
Using Modes "1024x768" "800x600" "640x480" Modes
Scanning for Harddisk partitions and creating /etc/fstab... Done.
Network device eth0 detected. DHCP broadcasting for IP. (Backgrounding)
run console are started : setup_dialog,setup_ja,done.
INIT: Entering runlevel: 3
Do you want to configure all interfaces via DHCP(y/n):
To return back to this virtual machine, press Ctrl+G.
```

Network Configuration



Network Status

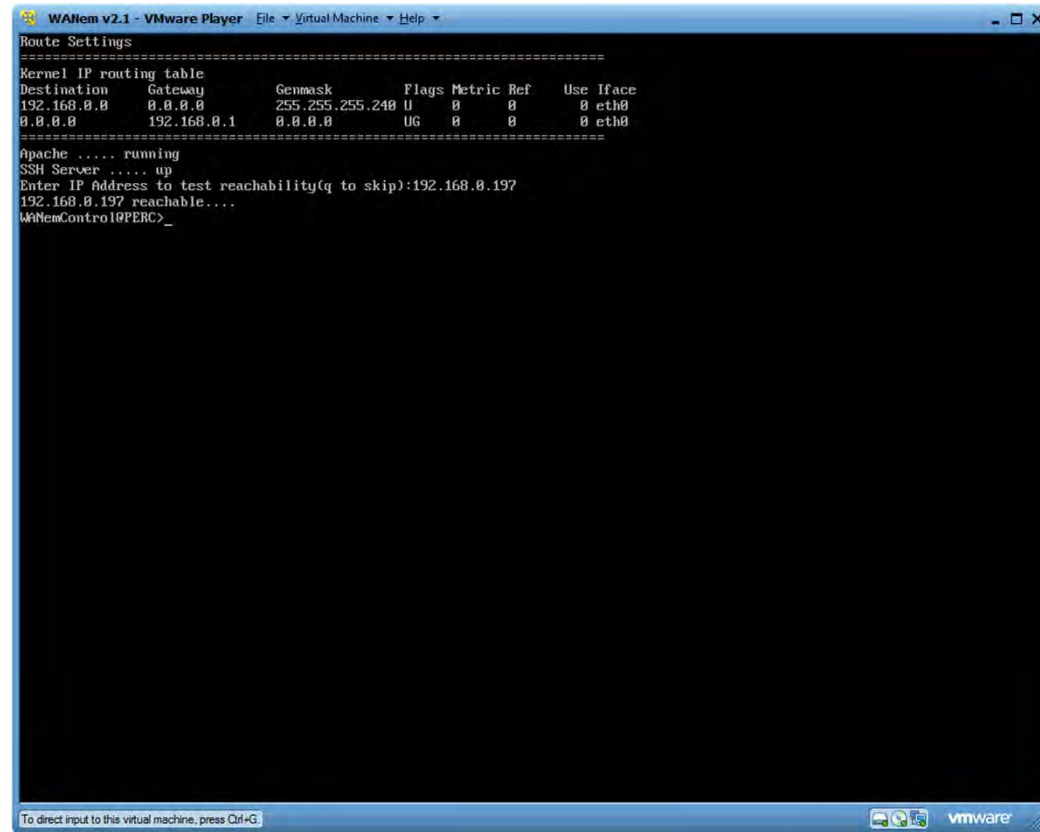


```
IP Settings
=====
eth0  Link encap:Ethernet  (Broadcast)
      inet addr:192.168.0.10  Bcast:192.168.0.15  Mask:255.255.255.240
      inet6 addr: fe80::200:1:1:1:1 Scope:Link
      UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
      RX packets:8 errors:0 dropped:0 overruns:0 frame:0
      TX packets:20 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:1000
      RX bytes:2172 (2.1 KiB)  TX bytes:4148 (4.0 KiB)
      Interrupt:16 Base address:0x1400

lo    Link encap:Local Loopback
      inet addr:127.0.0.1  Mask:255.0.0.0
      inet6 addr: ::1/128 Scope:Host
      UP LOOPBACK RUNNING  MTU:16436  Metric:1
      RX packets:2 errors:0 dropped:0 overruns:0 frame:0
      TX packets:2 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:0
      RX bytes:100 (100.0 B)  TX bytes:100 (100.0 B)

=====
Press any key to continue
```

Network Status

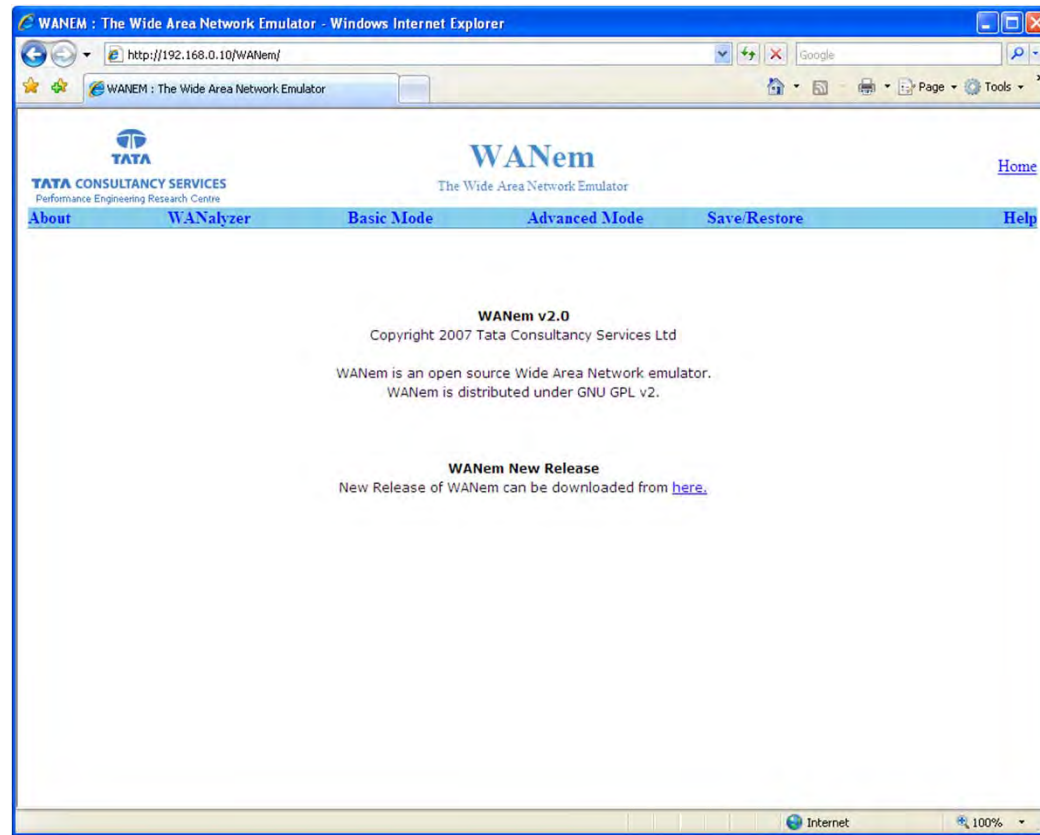


```
WAFem v2.1 - VMware Player  File  Virtual Machine  Help
Route Settings
=====
Kernel IP routing table
Destination    Gateway         Genmask         Flags Metric Ref    Use Iface
192.168.0.0    0.0.0.0         255.255.255.248 U        0      0      0 eth0
0.0.0.0        192.168.0.1     0.0.0.0         UG        0      0      0 eth0
=====
Apache ..... running
SSH Server ..... up
Enter IP Address to test reachability(q to skip):192.168.0.197
192.168.0.197 reachable....
WAFemControl@PERC>_

To direct input to this virtual machine, press Ctrl+G.  vmware
```

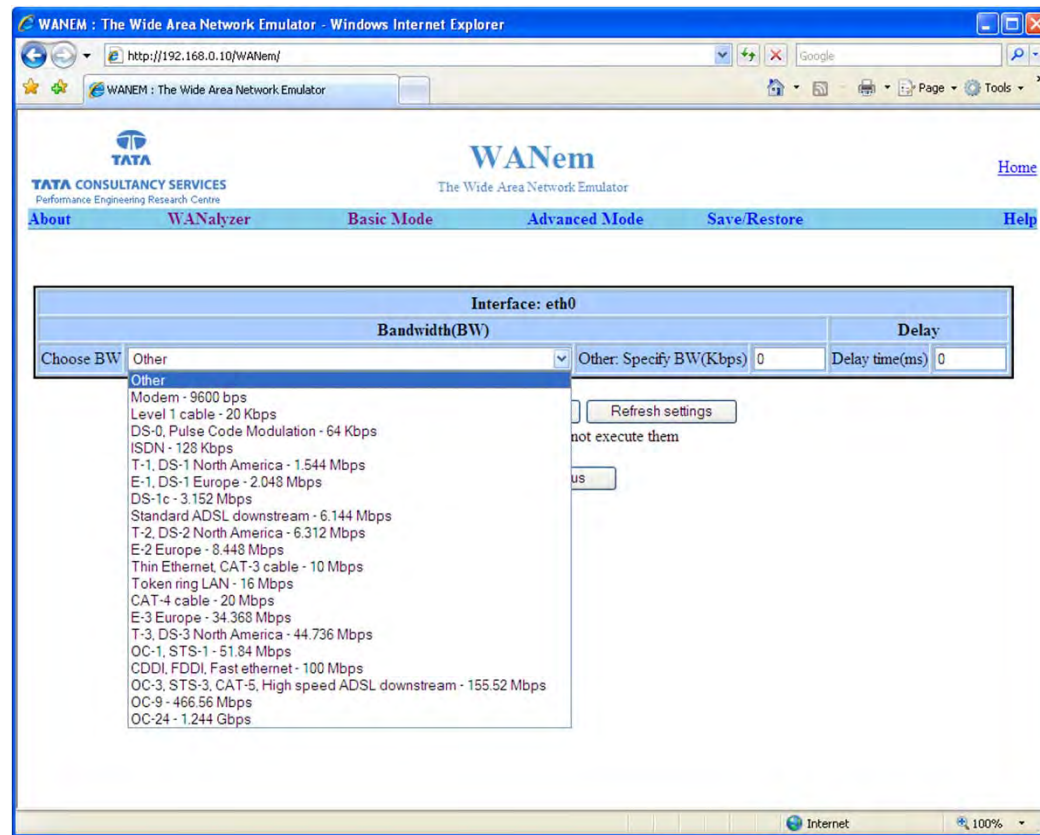
Network

Home

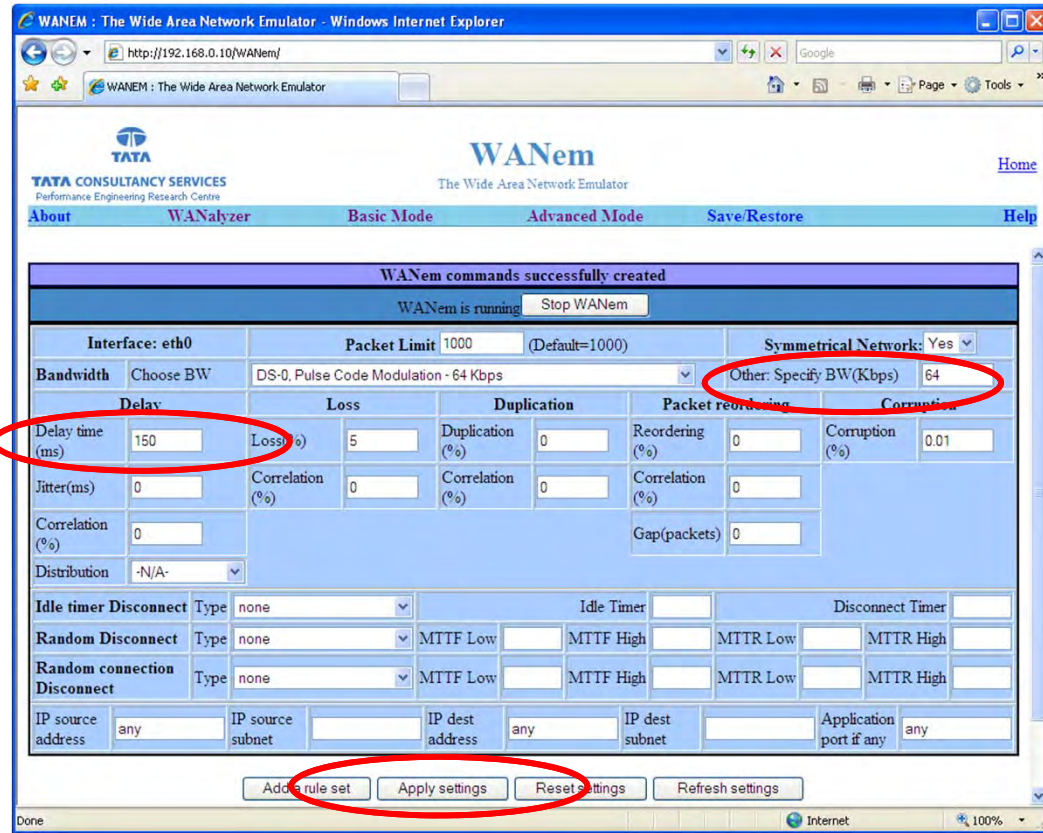


Network

Basic Mode

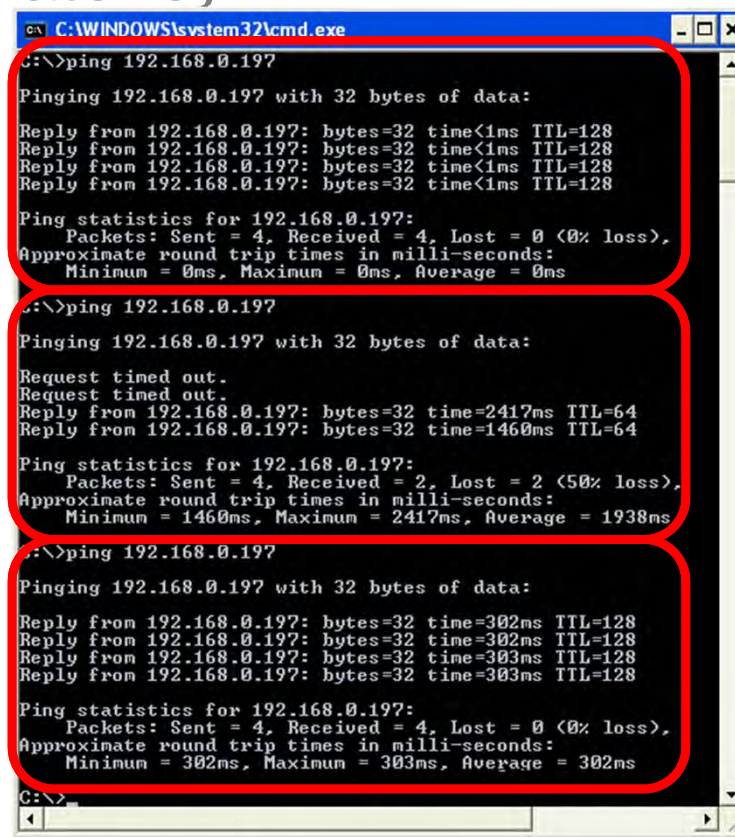


Advanced Mode



Network

Checking Latency



```
C:\WINDOWS\system32\cmd.exe
C:\>ping 192.168.0.197

Pinging 192.168.0.197 with 32 bytes of data:

Reply from 192.168.0.197: bytes=32 time<1ms TTL=128
Reply from 192.168.0.197: bytes=32 time<1ms TTL=128
Reply from 192.168.0.197: bytes=32 time<1ms TTL=128
Reply from 192.168.0.197: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.0.197:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.0.197

Pinging 192.168.0.197 with 32 bytes of data:

Request timed out.
Request timed out.
Reply from 192.168.0.197: bytes=32 time=2417ms TTL=64
Reply from 192.168.0.197: bytes=32 time=1460ms TTL=64

Ping statistics for 192.168.0.197:
    Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1460ms, Maximum = 2417ms, Average = 1938ms

C:\>ping 192.168.0.197

Pinging 192.168.0.197 with 32 bytes of data:

Reply from 192.168.0.197: bytes=32 time=302ms TTL=128
Reply from 192.168.0.197: bytes=32 time=302ms TTL=128
Reply from 192.168.0.197: bytes=32 time=303ms TTL=128
Reply from 192.168.0.197: bytes=32 time=303ms TTL=128

Ping statistics for 192.168.0.197:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 302ms, Maximum = 303ms, Average = 302ms

C:\>
```

Without WANem

WANem Stabilizing

150ms Each Way

Agenda

- Client Tuning
- Network Tuning
 - Tools
 - Tuning for High Latency/Low Bandwidth
 - PC
 - Oracle E-Business Suite issues
 - Tuning between the Keyboard and chair
 - Satellite



Tuning for High Latency/Low Bandwidth

Smoke and Mirrors?

- Windows XP
 - TcpWindowSize/GlobalMaxTcpWindowSize 256KB
 - Tcp1323Opts
 - 1 faster
 - 3 only for VERY lossy connections
 - Windows 7
 - Don't disable Nagle's algorithm
 - Don't disable TCP/IP autotuning
 - netsh int tcp show global
- Receive Window Auto-Tuning Level : normal



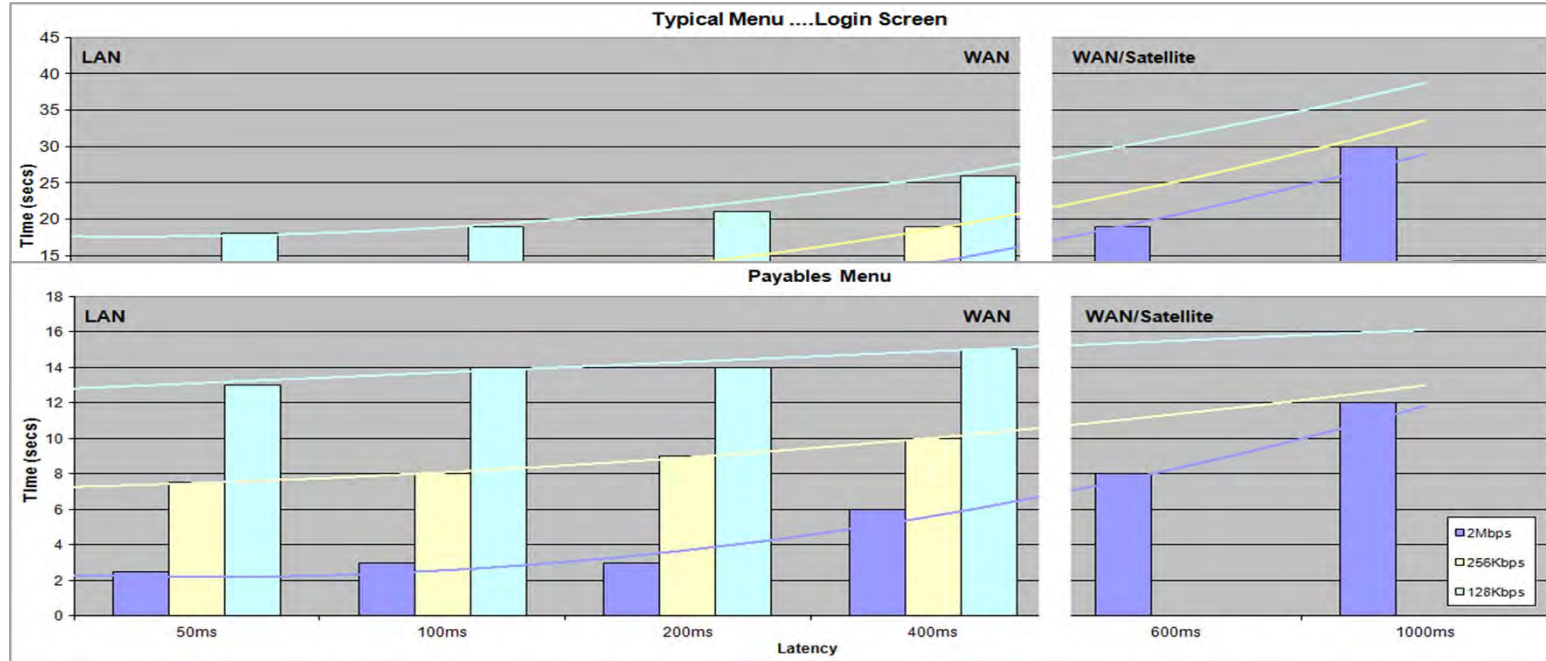
Tuning for High Latency/Low Bandwidth

Oracle E-Business Suite Issues

- Forms will not start after 300 seconds Bug 6644380
 - Relates to both latency and available bandwidth
- Swan Color Scheme in R12
 - Doc ID 786582.1 has a workaround ...Bug 5612353
- Keep menus small (seen on the PC comparison chart)
 - Bug 6329486

Tuning for High Latency/Low Bandwidth

Oracle E-Business Suite 11i Menus



Tuning for High Latency/Low Bandwidth

User Training

- Keep screens open
 - Use multiple sessions if necessary (Browsers slide 16)
- Teach users to query efficiently – avoid leading %
 - Minimize the use of large LOV's
- Concurrent Requests
 - Tight parameters => Smaller report to transfer
 - Report Type: PDF vs XML
- Tune the Application
 - Default as much information as possible

Application Tuning

Purchase Order Form – Standard Entry

Standard Entry

Enter Supplier Baxter [TAB]

Enter Item 0001 [TAB] select 0001-0120H from LOV

Enter Qty 1

Enter Price 1

Click Shipments

Enter Org V2 [TAB]

Enter Ship-To A [TAB] select Addison TX from LOV

Enter Need By

Click Distributions

[Save] [Approve] [Ok]

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Application Tuning

Purchase Order Form – Tuned

Purchase Orders - 6031

Operating Unit	Vision Operations	Created	03-MAR-2012 23:06:58
PO, Rev	6031 0	Type	Standard Purchase Order
Supplier	Global, Inc.	Site	GLOBAL-GA
Ship-To	V1- New York City	Bill-To	V1- New York City
Buyer	Stock, Ms. Pat	Status	Approved
Description			

P-Card	
Contact	
Currency	USD
Total	37.00 []

Lines Price Reference Reference Documents More Agreement Temporary Labor

Num	Type	Item	Rev	Job	Category	Description	UOM	Quantity	Price
1	Goods	60000			MISC.MISC	Sentinal Multimedia	Each	1	37

Item 60000 Sentinal Multimedia

Catalog... Currency... Terms Shipments Approve...

Application Tuning

Purchase Order Form – Comparison

Standard Entry

Enter Supplier Select [TAB]

Enter Item 0001 [TAB] Select 0001-0120H from LOV

Enter Qty 1

Enter Price 1

Click Shipments

Enter Org V2 [TAB]

Enter Ship-To A [TAB] select Addison TX from LOV

Enter Need By

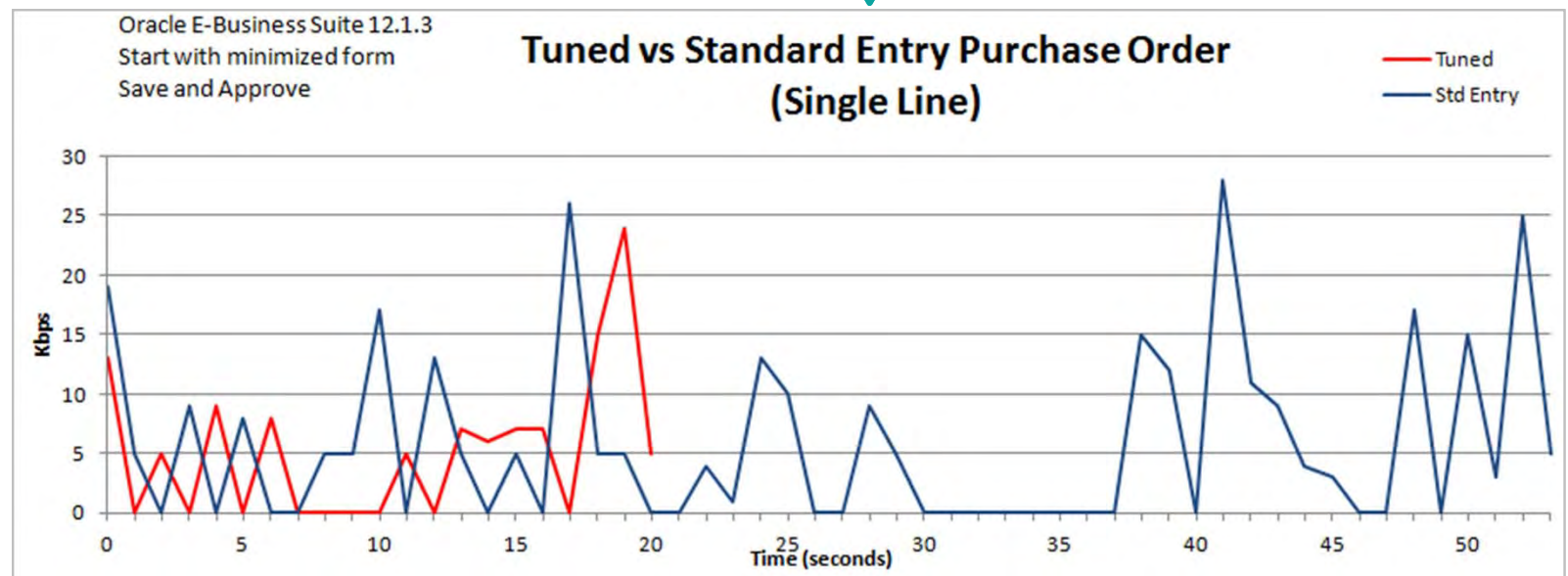
Click Distributions

[Save] [Approve] [Ok]

Application Tuning: Single Line PO Servlet mode

	Packets	Time	Bytes
Tuned	111	20	42,247
Standard Entry	316	53	109,334

Tuned is 62%
more efficient

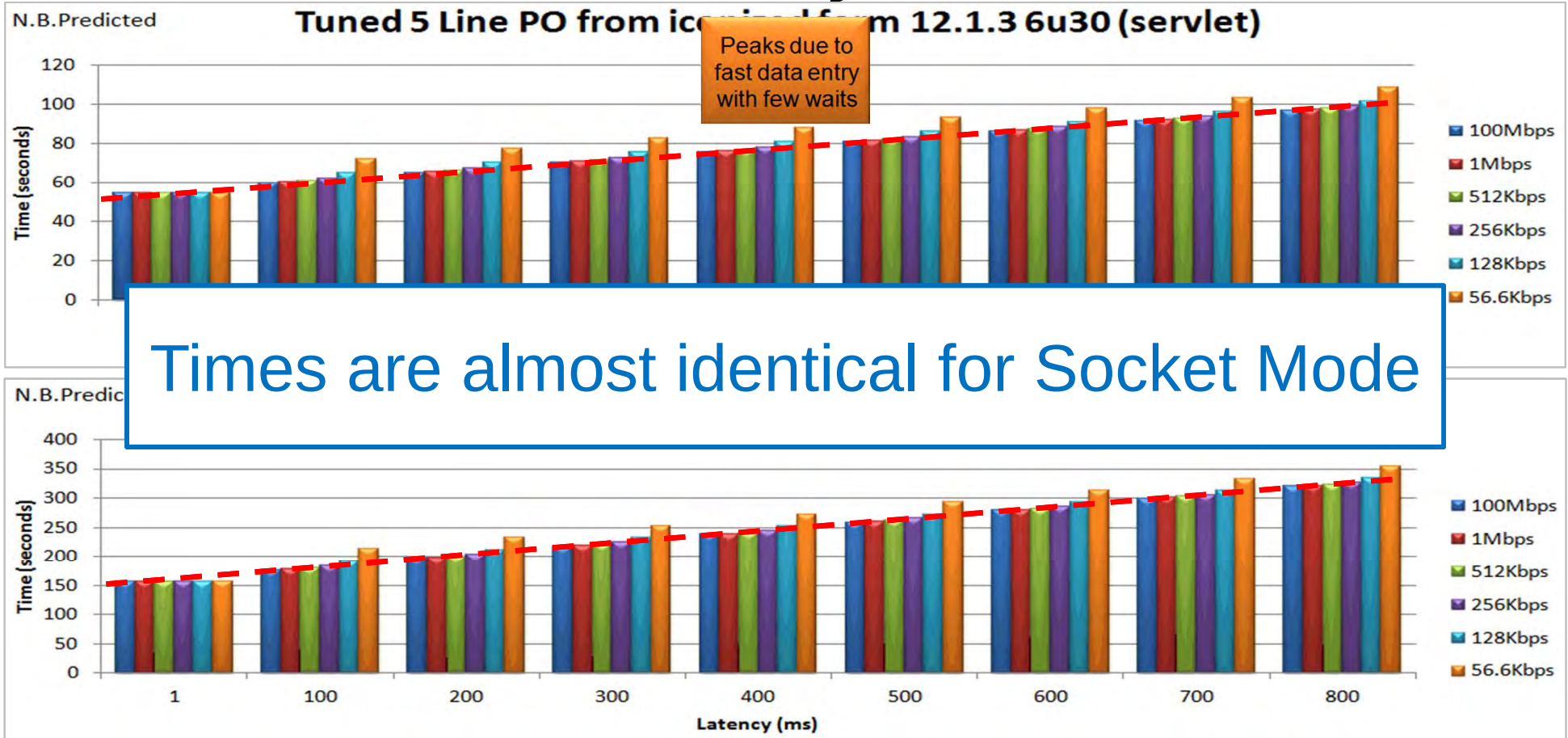


Socket vs Servlet

“Socket Mode uses up to 40% less bandwidth than Forms servlet mode”

- Connection mode:
 - Socket: Direct socket connection to the Forms Listener process
 - Client verification issues on open networks - but ok for secure networks
 - Servlet: Forms Java server uses HTTP sockets connections
 - Protocol headers increase traffic
 - 11i Doc ID 201340.1 (default socket) ...section 6 for dual mode
 - R12 Doc ID 384241.1 (default servlet)
- Use SSL with socket in 11i or with servlet in R12
 - SSL 11i: Doc ID 123718.1 R12: Doc ID 376700.1

Tuned vs Standard Entry: Servlet



Purchase Order 5 line: Socket vs Servlet

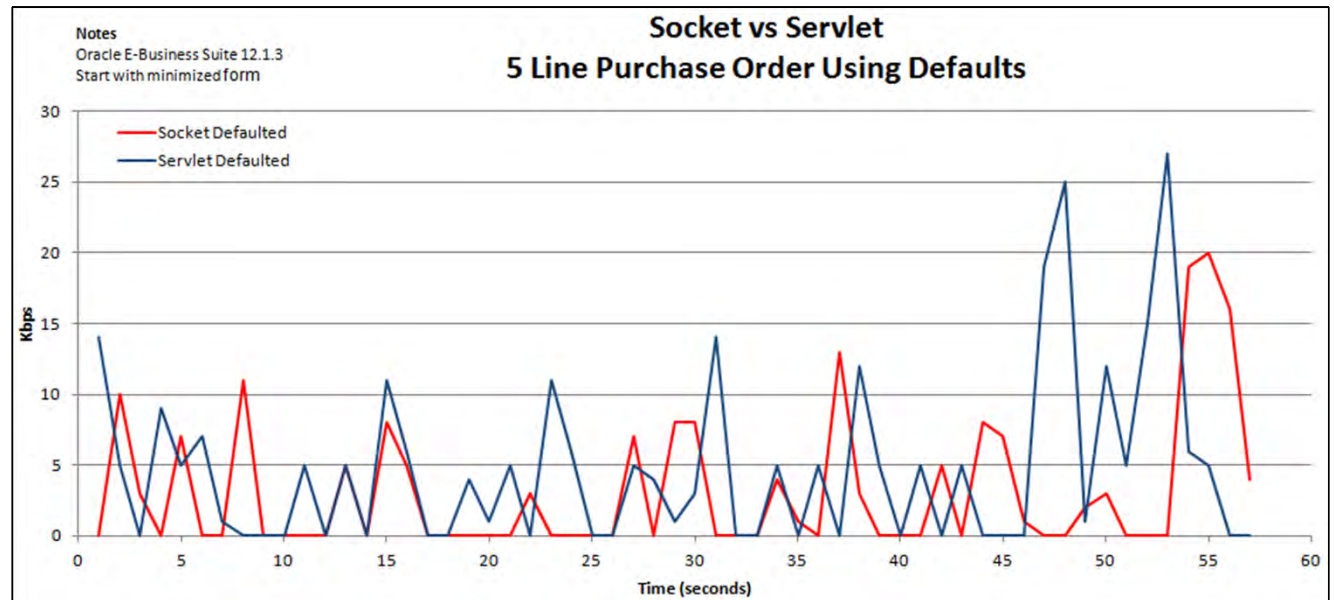
		Packets	Time	Bytes	
Tuned Defaulted	Socket	246	56	61,580	Tuned (Defaulted) 36%
	Servlet	274	71	97,336	
Untuned Standard Entry	Socket	749	182	131,999	52%
	Servlet	973	155	277,811	

Tuned is more
efficient than
untuned

53%

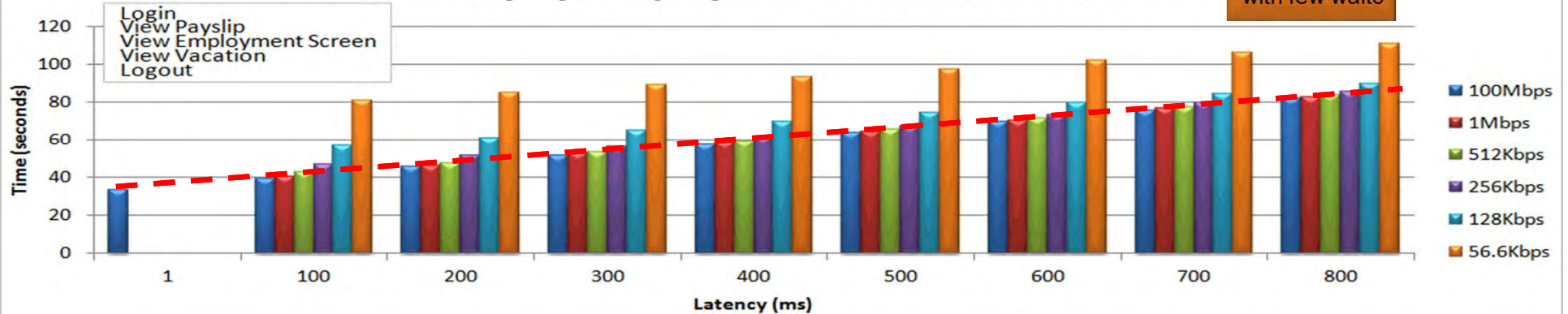
65%

Socket vs Servlet
5 Line Purchase Order Using Defaults

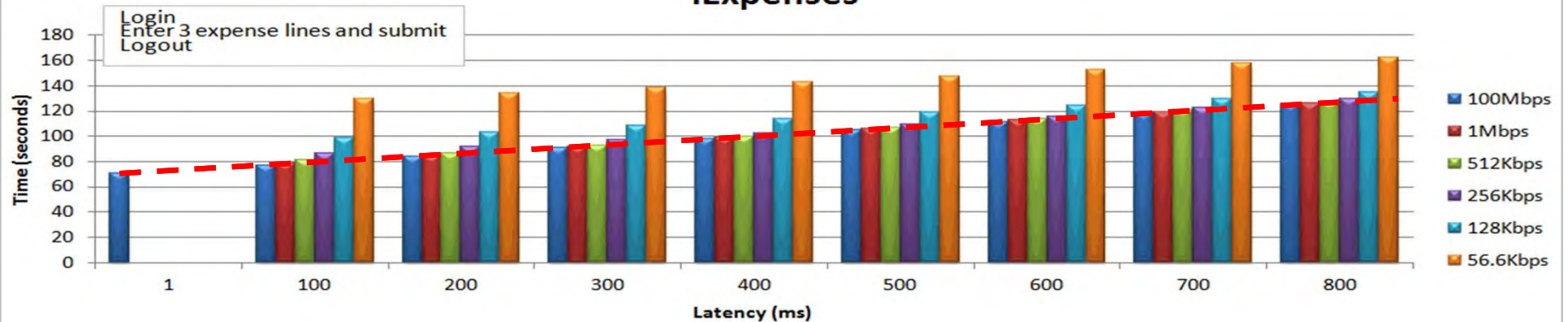


Self Service

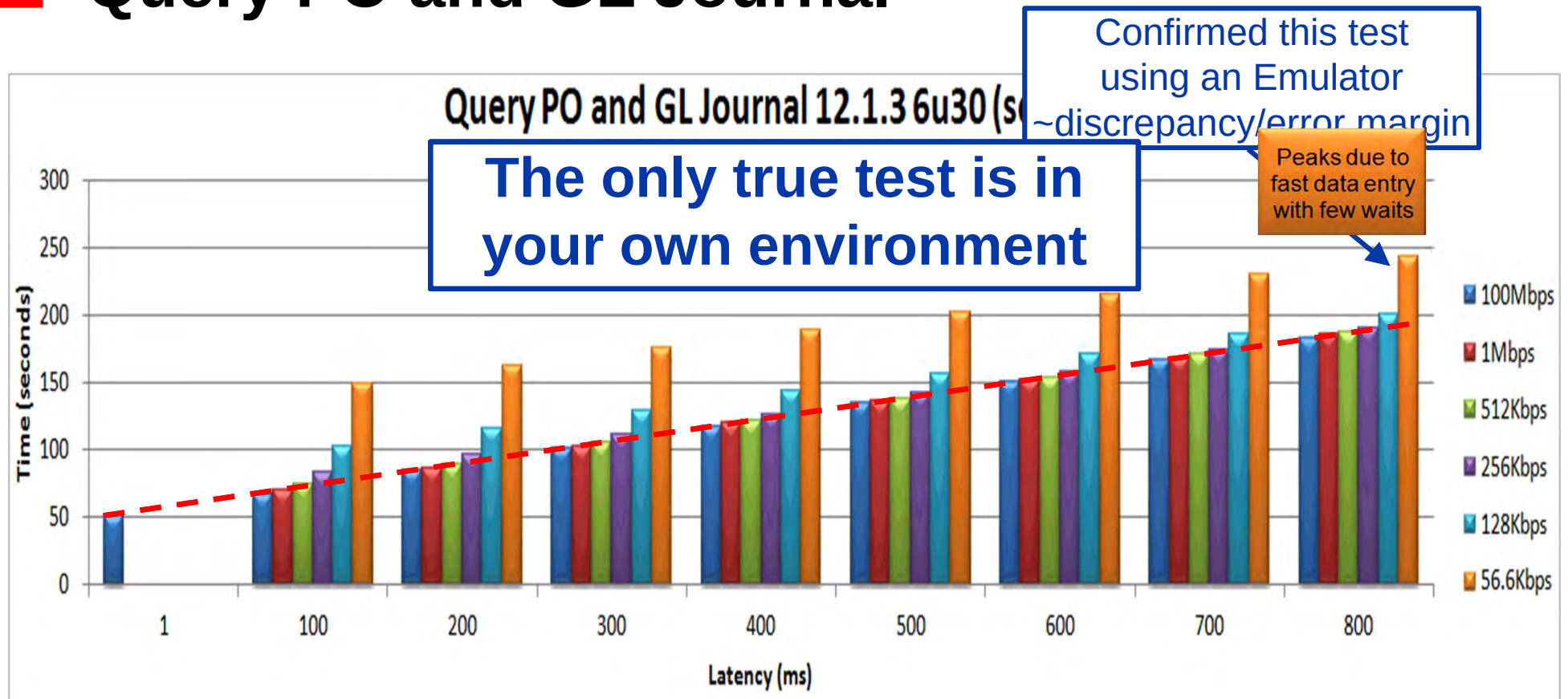
View Payslip, Employment and Vacation Screens



iExpenses



Query PO and GL Journal



VPN

		Packets	Time	Bytes	Average	Worst Case
Forms: Query PO and GL Journal	LAN	998	48	620240	6%	7.6%
	VPN	1119	74	657577		



- Other Metrics
 - JRE 7 vs JRE 6u31 ~ 0%
 - SSL ~10-20% Bytes

Agenda

- Client Tuning
- Network Tuning
 - Tools
 - Tuning for High Latency/Low Bandwidth
 - Satellite



Satellite

GEO vs LEO

- GEO
 - 22,400 miles above the equator
 - 89,600 miles for 1 packet and ACK (1 round trip)
 - Physics => 550 ms latency
 - Prone to packet loss due to network interference
 - Higher but more reliable
- LEO
 - Tends to lose signal every 5 mins
 - Especially if not tracking fast enough
 - Not generally used for bulk data/continuous signal

Satellite

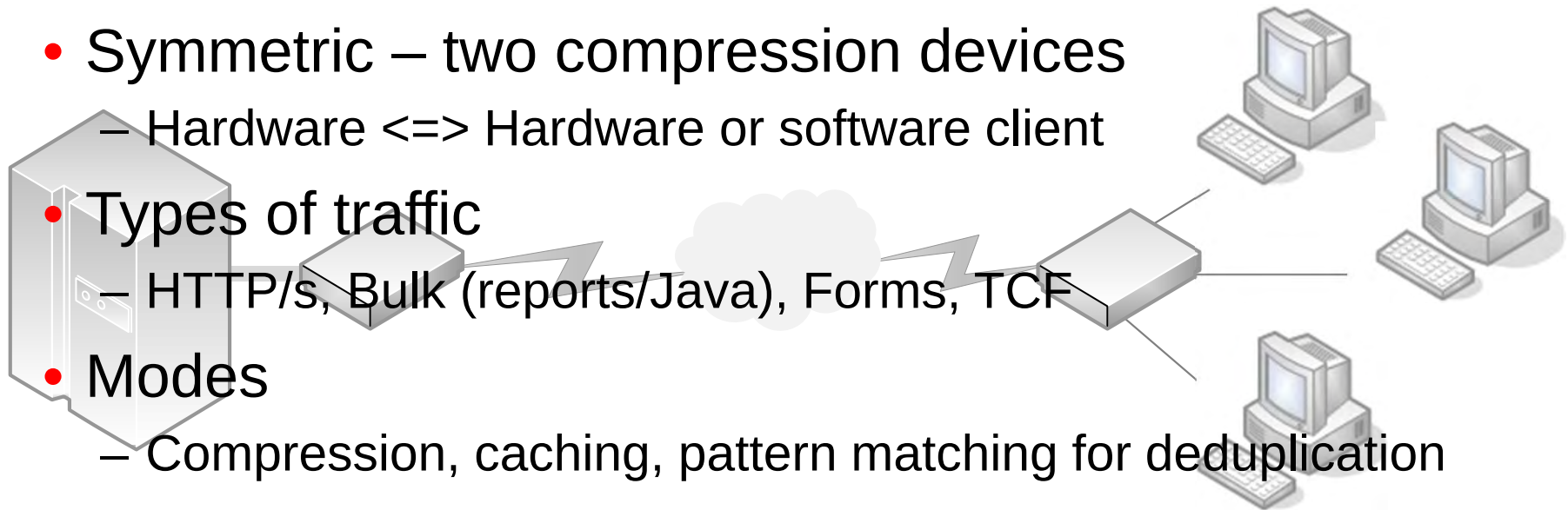
Optimize Everything

- What you can control
 - Amount of traffic (and compressibility: e.g. XML/PDF)
 - Set MTU to avoid packet assembly/disassembly, TCP window size*
 - Minimize number of hops: firewalls, routing
 - Schedule transfers outside peak periods (CM delivery options)
 - Optimal route: land line and one satellite hop vs multi sat-sat hops
- What you can ask for (from the vendor)
 - [Object level] caching, other acceleration, QoS/variant, HTTP prefetching
 - Bandwidth optimization (data deduplication and compression)

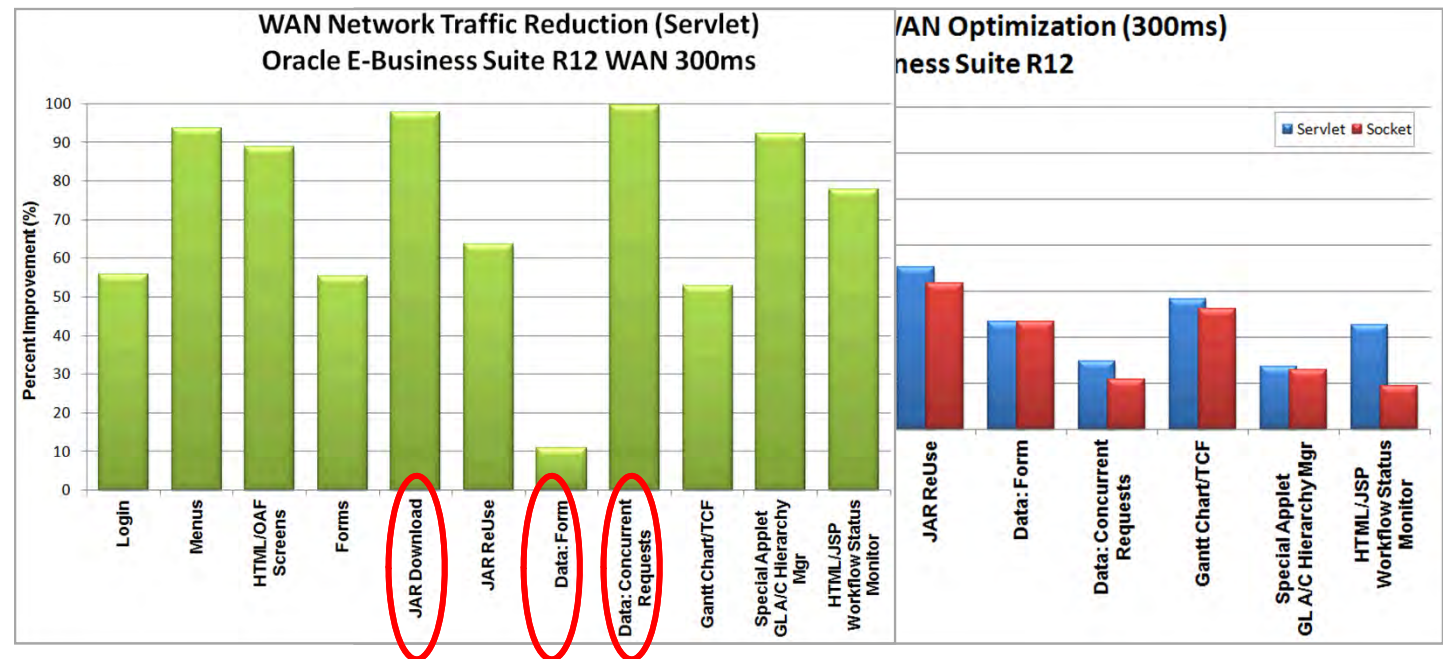
Symmetric Network Acceleration Paper R12

Doc ID 967992.1

- Symmetric – two compression devices
 - Hardware $\Leftrightarrow$ Hardware or software client
- Types of traffic
 - HTTP/s, Bulk (reports/Java), Forms, TCF
- Modes
 - Compression, caching, pattern matching for deduplication
- Does not tend to be a “fix all” technology
- Tested using 300ms 1Gbps



Symmetric Network Acceleration Paper R12



Wan Recommendations

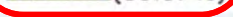
Symmetrical Network Acceleration Paper Doc ID 967992.1

- Compression is a complimentary technology
 - Without acceleration/compression
 - PDF uses 40% of the bandwidth of HTML or Excel format
 - With acceleration/compression
 - Use uncompressed formats such as HTML or Excel formats
- Download/ftp reports during non-peak periods
 - Smaller links are cheaper
- Cost of compression vs cost of infrastructure upgrade

Riverbed

Compression Report by Protocol

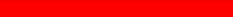
Period: Past 7 Days Group: Global Type: Optimized Traffic: Bi-Directional Refresh: Off Go

Port	Reduction	LAN Data	WAN Data	Traffic %
Total Optimized Traffic	 (71.49%)	46.2 TB	13.2 TB	--
80 (HTTP)	 (59.83%)	15.7 TB	6444.0 GB	33.91%
2049 (NFS)	 (82.48%)	13.6 TB	2444.4 GB	29.48%
445 (CIFS:TCP)	 (80.99%)	5462.0 GB	1038.6 GB	11.54%
21 (FTP)	 (54.09%)	3260.3 GB	1496.9 GB	6.89%
10566 (SnapMirror)	 (86.87%)	2856.1 GB	375.1 GB	6.04%
139 (CIFS:NetBIOS)				
873 (rsync)				
2050 (FlexCache)				
8080 (webcache)				
1521 (Oracle SQL)				

Compressed

Uncompressed

Period: Past 7 Days Group: Global Type: Pass Through Traffic: Bi-Directional Refresh: Off Go

Port	Reduction	LAN Data	WAN Data	Traffic %
Total Passthrough Traffic	 (0.00%)	50.5 TB	50.5 TB	--
80 (HTTP)	 (0.00%)	10.5 TB	10.5 TB	20.75%
2049 (NFS)	 (0.00%)	7256.3 GB	7256.3 GB	14.02%
22 (ssh)	 (0.00%)	7116.4 GB	7116.4 GB	13.75%
25 (smtp)	 (0.00%)	4434.1 GB	4434.1 GB	8.57%
443 (SSL)	 (0.00%)	2003.2 GB	2003.2 GB	3.87%

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Problem Definition – Baseline now!

- Current Performance
 - Profile the network from remote users (ping & network screen)
 - Time a few repeatable critical transactions
- Obtain a clear definition of the problem
- Analyze
 - Time related problem
 - Is performance bad all the time? When is it better or worse?
 - Location related problem
 - Identify network devices, protocols, and route(s)
- Compare the Network Test Form results

Summary Checklist

- PC and users
 - Consider deploying faster/tuned F
 - Train the users
 - Avoid multiple Java versions
- Application
 - Tune the application ... concurrent report parameters and output
 - Socket/Servlet ... OAF/HTML screens, small menus
- Network
 - Java version
 - Minimize network latencies (routing using landlines vs satellite)
 - Consider network acceleration

Keep forms open
Avoid blind queries
Leading % prevents index usage
Keep LOVs small
Use defaults where possible
Make report parameters mandatory
Type of report: XML/PDF

Useful Documents

Generic	69565.1	A Holistic Approach To Performance Tuning Oracle Applications Systems Release 11 and 11i
PC	557259.1	Oracle E-Business Suite 11i and R12 PC Client Performance
Network	967992.1	Symmetrical Network Acceleration with Oracle E-Business Suite R 12
Socket/Servlet	201340.1	Using Forms Listener Servlet with Oracle Applications 11i
	384241.1	Using Forms Socket Mode with Oracle E-Business Suite R12
Certification	285218.1	Recommended Browsers for Oracle E-Business Suite 11i
	389422.1	Recommended Browsers for Oracle E-Business Suite R 12
	290807.1	Deploying Sun JRE (Native Plug-in) for Windows Clients in Oracle E-Business Suite 11i
	393931.1	Deploying Sun JRE (Native Plug-in) for Windows Clients in Oracle E-Business Suite R12
	1077728.1	Using Microsoft Office 2007 and 2010 with Oracle E-Business Suite 11i and R12
	277535.1	Recommended Set Up for Client/Server Products with Oracle E-Business Suite 11i and R12

Q&A

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Hardware and Software

The Oracle logo, consisting of the word "ORACLE" in white capital letters on a red rectangular background.

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